



MASTERS IN MANAGEMENT: FINANCE AND INVESTMENTS

Thesis Title: Issues Affecting the Development of Capital Markets: The Case of
the Swaziland Stock Exchange

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Date of submission: March 2014

1	CHAPTER 1: ORIENTATION	9
1.1	Introduction	9
1.2	A Brief Overview of the Swaziland Stock Exchange	10
1.3	Problem Statement	14
1.4	Objectives of the Study	15
1.5	Significance of the Research	15
1.6	Methodology Overview.....	16
1.7	Outline of the Study.....	17
2	CHAPTER 2: LITERATURE REVIEW	18
2.1	Introduction	18
2.2	Overview of Swaziland Financial System	18
2.3	Recent Legislative Developments in Swaziland	20
2.3.1	Insurance Act of 2005	20
2.3.2	The Retirement Funds Act of 2005.....	23
2.3.3	The Financial Services Regulatory Authority Act of 2010	26
2.3.4	The Securities Act of 2010	26
2.3.5	Swaziland Revenue Authority Act of 2009	26
2.4	Domestic Retention Policies For Contractual Savings Institutions in Africa	26
2.5	Financial System Development and Economic Growth	27
2.6	Role of a Stock Exchange in the Economy	29
2.7	Critics of Establishment of Stock Exchanges in Developing Countries	30
2.8	Relationship between the Banking Sector and the Stock Market	31
2.9	Role of Bond Market.....	33
2.10	Role of Institutional Investors in the Development of Stock Exchanges.....	34
2.11	Institutional Structures and Stock Exchange Development	37
3	CHAPTER 3: METHODOLOGY	39
3.1	Introduction	39
3.2	Problem Statements.....	39
3.3	Population and Research Sample	39
3.3.1	Qualitative Sample.....	39
3.3.2	Quantitative Sample.....	40
3.4	Research Design.....	40
3.4.1	Qualitative Research Design.....	41
3.4.2	Quantitative Research Design.....	41
3.5	Instrumentation.....	43

3.5.1	Sources of Data	43
3.5.2	Dependant Variables	44
3.5.3	Independent variables	44
3.5.4	Estimation of Quarterly GDP.....	45
3.5.5	Data Limitations.....	45
3.6	Data Analysis	45
3.6.1	Descriptive Research Design	45
3.6.2	Segmented linear regression	46
3.6.3	Threats to Internal Validity	47
3.6.4	Threats to External Validity	48
4	CHAPTER 4: RESEARCH RESULTS AND ANALYSIS	49
4.1	Introduction	49
4.2	Test for Autocorrelation and Partial Correlation.....	49
4.2.1	Analysis of ACF and PACF Correlograms.....	52
4.3	Descriptive Statistics	53
4.3.1	Evolution of Market Capitalization 2006-2012	53
4.3.2	Evolution of Turnover Value 2006-2012.....	54
4.3.3	Evolution of Turnover Ratio 2006-2012.....	55
4.4	Modelling Intervention.....	55
4.4.1	Turnover Value/Market Capitalization Ratio Model	56
4.4.2	Segmented Market Capitalization Model	57
4.4.3	Segmented Turnover Value Model	58
4.5	Discussion of Findings	59
4.6	Impediments to the Development of the Stock Exchange	60
4.6.1	Poor Liquidity	60
4.6.2	Free Float	60
4.6.3	Lack of New Listings.....	61
4.6.4	Legislative Framework	61
4.6.5	Trading Infrastructure	61
4.6.6	Central Depository System	61
4.6.7	Lack of Education and Behavioural Patterns of Investors.....	62
5	CHAPTER 5: CONCLUSION AND RECOMMENDATIONS.....	63
5.1	Conclusion.....	63
5.2	Policy Recommendations	63
6	REFERENCES	65
7	APPENDIX 1 - Questionnaire to Key Industry Players	70

8 APPENDIX 2 - Segmented Regression Results for Market Capitalization (adjusted for correlation using Prais-Winsten AR (1) Regression).....	72
Table 1: Investment Mix of the Long Term Insurance Industry.....	20
Table 2: Investment Mix of Short Term Insurance Industry	22
Table 3; Local Investment for Short Term Insurers by Asset Class	22
Table 4: Foreign Investment for Short Term Insurers by Asset Class.....	23
Table 5: Investment Mix of Retirement Fund Assets	24
Table 6: Segmented Regression Results for Turnover Value/Market Capitalization Ratio	56
Table 7: Segmented Regression for Turnover Value/Market Capitalization (adjusted for correlation Using Prais-Winten AR (1) Regression)	56
Table 8: Segmented Regression Results for Market Capitalization	57
Table 9: Segmented Regression Results For Market Capitalization (adjusted for correlation using Prais-Winsten AR(1) Regression)	57
Table 10: Segmented Regression Results for Turnover Value	58
Table 11: Segmented Regression Results for Turnover Value (adjusted for correlation using Prais-Winsten AR(1) Regression).....	58
Figure 1: Local and Foreign Investment for Long Term Insureres by Asset Class 2012 and 2013.....	21
Figure 2: Local and Foreign Investments for Retirement Funds by Asset Class 2012 and 2013	25
Figure 3: ACF and PACF(Respectively) Correlograms for Market Capitalization	50
Figure 4: ACF and PACF(Respectively) Correlograms for Turnover Value	51
Figure 5: ACFand PACF (Respectively)Correlograms for Turnover Value/Market Capitalization Ratio	52
Figure 6: Market Capitalization Trend 2006-2012	53
Figure 7: Turnover Value Trend 2006-2012.....	54
Figure 8: Turnover Value/Market Capitalization Ratio Trend 2006-2012	55

ABBREVIATIONS

FSRA	Financial Services Regulatory Authority
RIRF	Registrar of Insurance and Retirement Funds
SRA	Swaziland Revenue Authority
SSX	Swaziland Stock Exchange
CBS	Central Bank of Swaziland
CoSSE	Committee of SADC Exchange
GDP	Gross Domestic Product

DEFINITION OF TERMS

Free Float	The proportion of listed securities held by the public to total number of listed securities.
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DECLARATION

I, Thokozile Buluma, declare that the research work reported in this dissertation is my own, except where otherwise indicated and acknowledged. It is submitted in partial fulfilment for the Masters of Management in Finance and Investments degree at the University of the Witwatersrand. This has not been submitted before for any degree or diploma in any other university or institution for a similar qualification. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Signature of Candidate

Date

Signature of Supervisor

Date

ACKNOWLEDGEMENTS

I never would have been able to complete this research report without the instrumental contributions and support of a number of individuals. Above all I would like to thank God for this achievement and for his goodness and his mercy.

I would not have managed to complete this course without my loving family who provided financial and moral support, from the beginning of this academic journey. Thank you so much.

I would also like to thank Mr Peace Mabuza who was instrumental in helping me acquire the relevant data and Mr Sdumo Masango who was instrumental in assisting me with the econometric aspect of the research especially the econometric software. Your advice and guidance were invaluable. I am also grateful to the respondents who responded to the administered questionnaires.

Last but not least, Professor Kalu Ojah, my supervisor. Thank you for your constant constructive criticism, motivation and guidance which helped me to realize the potential within me and work even harder. Thank you.

ABSTRACT

The research aims to identify issues affecting the development of the Swaziland Stock Exchange, particularly the public equity market. In particular, the impacts of recent legislative changes on the development of the Swaziland Stock Exchange are assessed. The research particularly assesses the impact of the 30% domestic investment requirement for insurance companies and retirement funds which is stipulated in the Insurance Act of 2005 and the Retirement Funds Act of 2005. The research also aims to identify impediments to the development of the Swaziland Stock Exchange.

An interrupted time series design is used to assess movements of dependant variables (stock market development indicators) under consideration over time both before and after the implementation of the intervention (30% domestic investment requirement) in order to assess whether there is an obvious change. The findings of the research are that the implementation of the 30% domestic investment requirement stipulated in the both the Insurance Act and the Retirement Funds Act of 2005 had a positive impact on market capitalization in the time period after the implementation of the requirement but had no impact on turnover value and turnover ratio of the Swaziland Stock Exchange.

1 CHAPTER 1: ORIENTATION

1.1 Introduction

The purpose of this study is to identify the impact of legislative changes, particularly the 30% legislative domestic investment requirement stipulated in the Retirement Funds Act of 2005 and the Insurance Act of 2005, on the Swaziland Stock Exchange (SSX), particularly the public equity market, and to determine impediments to the development of the SSX.

In 2005, the Development Report published by the SSX revealed that one of the challenges facing the SSX was the lack of or inadequate institutional participation. Later that year, the Swaziland government promulgated the Retirement Funds Act of 2005 and the Insurance Act of 2005 (Acts), which direct that 30% of all assets of retirement funds and insurance companies, which are the largest institutional investors in Swaziland, be invested locally¹. It was anticipated that the 30% local investment requirement stipulated in the Acts would improve institutional participation in the Swaziland economy, particularly the SSX. Historically, the majority of institutional investors, such as retirement funds, insurance companies and collective investment schemes (unit trusts) have held their investments outside Swaziland, especially in neighbouring South Africa. Swaziland is a member of the Common Monetary Area (CMA), which provides for the free movement of capital within member states, which are Lesotho, Namibia, Swaziland and South Africa. It is believed that the CMA agreement amplified capital flight in the case of Swaziland as neighbouring South Africa availed relatively more diverse and attractive investment opportunities compared to Swaziland.

The spirit of both the Retirement Funds Act and the Insurance Act of 2005 was to initiate a string of crucial developments to attract institutional investors who would play a positive role in the development of the financial sector in Swaziland. The Acts aim to ensure that a portion of funds from the insurance and retirement funds industries are used to develop the Swaziland economy and make a significant addition to the GDP in the hope that this will play a role in placing Swaziland as a second generation emerging African market economy in the future. There have been numerous studies on the relationship between the development of stock markets and economic growth. Bakaert and Harvey (1996), in particular, suggested that stock market development and economic growth are positively correlated. Thus, it is

¹Schedule 1 of the Retirement Funds Act of 2005 and Schedule 3 of the Insurance Act of 2005.

crucial that studies on frontier markets are carried out in order to determine the impact of such market based legislation on the development of the stock market.

Numerous players in the Swaziland financial industry have indicated that it may be challenging for the institutional investors to fulfil the 30% local investment requirement as the linkage between the objectives of these Acts and the efficiency with which the additional liquid funds can be invested locally has not been clearly outlined. Thus the objectives of these Acts may not be fully realised.

The Financial Services Regulatory Authority (FSRA) which regulates the non-banking financial sector in Swaziland has voiced a concern that a large portion of the mandatory 30% domestic investments from the retirement funds and insurance companies are invested in the form of cash in the banking sector and a large portion of the cash is repatriated to foreign parent companies². Market participants, particularly investment managers, have argued that this pattern is a result of insufficient opportunities for the effective allocation of resources. This in turn defeats the intent of the Acts since the funds still end up outside the Swaziland economy. The continued lack of adequate avenues for asset allocation in Swaziland may result in the objectives of the Acts for retention of funds for domestic development not being realised.

There have been a number of legislative advancements in Swaziland in the past eight years in an attempt to mobilise and stimulate the financial sector. Therefore, a study such as this current one could provide guidance for policymakers to assess the current and possible future role of the SSX in financial sector development. This research attempts to assess the impact of an increase in the money invested locally by institutional investors due to the legislative 30% local investment requirement on the development of the SSX, particularly the public equity market.

1.2 A Brief Overview of the Swaziland Stock Exchange

Swaziland is a small country in Southern Africa occupying a landscape of seventeen thousand two hundred (17 200) square kilometres according to World Bank data. According to 2012 world bank figures, Swaziland had a population of approximately one million and two hundred and thirty one thousand (1 231 000) people and a GDP of approximately \$ 3.744

²According to the Central Bank Annual Report for 2013, South African Banks Dominate the banking sector in Swaziland and accounted for 84.2% of the total banking sector assets in 2012.

billion. According to the Central bank report for 2012, the economy grew at a minimal rate of 1.7% in 2012 up from a 0.6 decline in 2011 which is low compared to other Sub Saharan countries which recorded average growth of 4.8% in 2012. The inflation rate was 8.9% in 2012 from 6.1% recorded in 2011. The main economic drivers are agriculture, forestry, mining, manufacturing and services of which government services constituted sixty four per cent (64%) of GDP in 2011.

The International Monetary Fund (IMF) has used the term ‘frontier markets’ to define countries with markets that are smaller and less liquid than those in more advanced emerging markets. Based on this definition Swaziland can be classified as a frontier market. Nellor (2008) suggests that some African countries are capable of becoming part of a second generation of emerging market countries if they develop financial markets that are likely to attract institutional investors.

The SSX currently operates within the Financial Services Regulatory Authority of Swaziland. The SSX started operating in 1990 within the Capital Market Development Unit (CMDU) of the Central Bank of Swaziland. The stock exchange was initiated as an over the counter market and trading was done on an informal basis and facilitated by Swaziland Stock Brokers. The brokers had the responsibility of reporting the market activity in the Times of Swaziland (local newspaper) and the index used was an unweighted stock price index. The unweighted price index remained unchanged until 2001; after which it was substituted by a market capitalisation weighted index recomputed at the close of each trading session.

Following the licensing of another broker in 1998, African Alliance, the SSX proceeded to be a fully-fledged stock exchange and the Central Bank of Swaziland inaugurated the stock market in July 1999. The SSX became more formalised and trading took place between 10:00 am and 12:00 noon, Monday to Friday, and the day-to-day reporting in the local newspaper and physical settlement undertaken with custodial facilities provided by Nedbank becoming routine. Currently all dealings in the capital markets are carried out by Swaziland Stock Brokers (LTD) and African Alliance Swaziland (LTD). Currently financial instruments traded on the SSX include bonds³, equities and unit trusts.

Prior to 2010, there was no legislation governing the regulation of capital markets which presented challenges in terms of regulation of capital markets and investor protection. In the

³Both government and corporate bonds are traded on the SSX.

absence of official legislation, the Central Bank of Swaziland exercised marginal control over capital markets under the Financial Institutions Order of 1975 and the Financial Institutions Act of 2005, and issued Collective Investment Schemes Guidelines and Stock Exchange Listing Requirements and Guidelines. The SSX has existed in its current form since 01st September 2000. There are currently six companies listed on the stock exchange all with very minimal secondary trading.

Formal legislation was recently introduced to regulate capital markets in Swaziland: the Securities Act of 2010 and the Financial Services Regulatory Act of 2010. These Acts provided for the appointment of the Registrar of Capital Markets.

According to the Securities Act of 2010, “for the purpose of carrying out the objectives of the office, the Registrar may increase the supply of securities by encouraging companies to increase investment in capital assets and raise finance through the public issue of securities; and encourage holders of securities to engage in the secondary market”. This may prove to be a challenge as there are other overriding factors such as market liquidity which may play a role in an investor’s decision to participate in the secondary market.

The development reports published by the SSX from 2005 to 2010 reveal that the SSX was facing the following challenges:

Insufficient legal framework – Prior to 2010, the absence of legislation made the SSX a relatively risky investment platform as there was no gazetted legal protection for investors and listed companies. The FSRA anticipates that the new legislation namely, the Securities Act of 2010 and the Financial Services Regulatory Act of 2010, will increase investor confidence in the SSX.

Corporate governance practice – The SSX listing requirements stipulate that listed companies are required to comply with the code of corporate governance prescribed in the King II report. However, enforcement of best practice lacked the support of enabling legislation. The FSRA anticipates that the new legislation namely, the Securities Act of 2010 and the Financial Services Regulatory Act of 2010, will increase investor confidence in the SSX so far as corporate governance considerations are concerned. Consequently, exposure to malpractice from industry players will be reduced.

Inadequate trading infrastructure – The SSX is currently trading by means of the manual call-over system. The SSX does not have an electronic trading system or a central securities depository. It has been observed that the global trend is that regional exchanges have been migrating to electronic trading systems. Thus the current system of the SSX has implications for the efficiency of the settlement of securities traded because it may be difficult to link up with other regional exchanges that use electronic trading platforms.

Poor liquidity –The poor liquidity of the SSX secondary market is mainly due to the small size of the SSX, the low free float⁴ and the small capital base of listed companies.

Free float – The approved minimum free float for the Committee of SADC Stock Exchanges (CoSSE) members is 20%. This has given rise to a limited number of shares issued at the initial public offering stage and a low trade volume in the secondary market.

Lack of institutional participation – Historically, a majority of the institutional funds' assets have been invested outside Swaziland especially in member countries of the Common Monetary Area which provides for free movement of capital within member states. It was anticipated that the Retirement Funds Act and the Insurance Act of 2005 both of which direct that 30% of all assets of retirement funds and insurance companies be invested locally would have a positive effect on institutional investors' participation on the SSX.

Minimal disposable income – High unemployment and relatively low disposable income are partly responsible for low savings rates and by extension fewer financial resources are directed to financial investment on the SSX by local citizens.

Behavioural patterns of investors – Traditionally, citizens of Swaziland prefer to invest in real assets such as cattle⁵ and generally invest their disposable income in banks which they deem to be more accessible than the SSX. The general populace are therefore not exposed and receptive to more sophisticated financial instruments traded on the SSX such as equities.

Concentration of trading activities on a few companies' stocks – It has been observed that trading activity is concentrated on a few companies which attract relatively higher investor attention. This results in share trades on a limited number of companies.

⁴ Free float is the proportion of listed securities held by the public to the total number of listed securities

⁵ Historically, cattle are considered as a sign of wealth in Swazi culture.

1.3 Problem Statement

This study aims to address the following problems:

Problem (1) – The evolution of institutional investors, particularly in the contractual savings sector, has been linked with the promotion of financial development and economic growth. Whether an increase in contractual savings institutions has a significant impact on the growth of capital markets, specifically a small and illiquid stock exchange such as the SSX remains inconclusive. Catalan, Impavido and Musalem (2000) argue that contractual saving institutions are effective in developing capital markets as their liabilities are long term and do not require immediate liquidity. Catalan et al (2000) found that countries with more advanced contractual savings sectors also had more developed stock markets and countries where the contractual savings sector increased comparatively also experienced the highest growth in market capitalization and value traded.

On the other hand, Meng and Pfau (2010) found that the effect of pension funds (contractual saving institution) on capital markets depends on the level of financial development and that pension funds do not significantly impact capital markets in countries with a low level of financial development.

The Swaziland Government has attempted to mobilise the financial sector in Swaziland by implementing a number of legislative advancements in the past eight years. It was anticipated that the Retirement Funds Act and the Insurance Act of 2005, which both direct that 30% of all assets of retirement funds and insurance companies be invested in the domestic economy, would have a positive effect on the participation of institutional investors in the SSX. However, the effects of these Acts on the SSX have not been quantified. There is currently no empirical evidence regarding the development impact of such legislation on the SSX as there has been no study on this issue devoted exclusively to the SSX.

Problem (2) – Economic growth and financial development are associated with an enabling regulatory and policy environment. In the case of Swaziland the linkage between the objectives of the Acts and the efficiency with which the funds from the institutional investors are channelled locally has not been clearly outlined and the objectives of the Acts have only been partially realised.

The Financial Services Regulatory Authority which regulates the non-bank financial sector in Swaziland, including the SSX, has voiced a concern that a large portion of the local

institutional investors' funds are invested in the form of cash in the banking sector and a large portion of the cash is repatriated to foreign parent companies.

Impavido, Musalem, and Tressel (2003) found that the correlation between the growth of contractual savings and the stock market is weaker, the greater the cross-border security transactions there are. The SSX has the potential to play a more prominent role in capital allocation in the Swaziland economy and provide alternative avenues for the investment of funds of institutional investors if creative ways to foster the development of the SSX are explored and impediments to the development of the SSX are addressed.

In the case of Swaziland there has been no study where the regulatory and policy environment are assessed in order to determine whether there is a linkage between the objectives of the regulations and policies and the efficiency with which the funds from the institutional investors are channelled locally.

1.4 Objectives of the Study

The study therefore aims to assess the effect of the 30% local investment requirement stipulated in the pertinent Acts in order to determine their development impact on the SSX.

More specifically, objectives of this study are as follows:

1. To explore the effect of the implementation of the 30% domestic investment requirement stipulated in both the Retirement Funds Act and the Insurance Act of 2005, on the development of the SSX.
2. To identify impediments to the development of the SSX.

1.5 Significance of the Research

The research is significant as it will provide a quantifiable model developed to assess the impact of the 30% local investment requirement for retirement funds and insurance companies on the SSX. The research can be used by policy makers to assess the impact of such market based investment legislation on the SSX.

Further, the research can be utilised by countries with similar circumstances as Swaziland and are yet to enact polices which dictate that a certain portion of funds of institutional investors be invested locally given that the stock exchange is underdeveloped. This report will expand

on current literature on the SSX such as the study by Hearn and Piesse (2009), in particular, who found that the SSX is small and illiquid and that certain barriers exist as inhibitors to its development.

1.6 Methodology Overview

The research will consider the impact of legislative changes, particularly the 30% local investment requirement on the development of the SSX, particularly the public equities market. The evaluation of the study will have a domestic focus.

The research will primarily be quantitative in nature with qualitative considerations. The qualitative aspect of the research will mainly be for verification of certain assumptions and generalizations within the real world context. The qualitative primary data will be collected through questionnaires. Qualitative secondary information will be obtained from the business section of the local newspaper, the Central Bank of Swaziland Annual Reports, SSX Development Reports, RIRF Annual Reports and FSRA Annual Reports.

The quantitative analysis will encompass the use of a time-series econometric design which will involve making a series of observations, introducing an intervention or other new variables to the system, and then making additional observations. The samples observed will be drawn from the SSX Development Reports. The observations will be drawn from a period before and after the implementation of the Acts. Changes in the observations before and after the implementation of the Acts will be gauged in order to ascertain if there are significant changes that may have occurred which can be attributed to the implementation of the Acts.

1.7 Outline of the Study

This proposal report will be considered as chapter one (1) of the research paper. The remainder of the research report will consist of the following chapters:

Chapter 2 –This chapter will highlight the recent legislative changes in Swaziland that may have an effect on the development of the SSX. The chapter will also make inquiries into the theory and empirical studies which explain the synergies between the development of the financial system (particularly the stock market) and economic growth.

Chapter 3 – This chapter will focus on the methodology used to carry out the research. The stochastic model used and the research design will be extensively elaborated on. The limitations of the research approach and methodology will also be highlighted in this chapter.

Chapter 4– This chapter will include an analysis and discussion of findings.

Chapter 5 – This chapter will mainly focus on conclusions and recommendations (policy guide) that can be made from the findings.

2 CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter highlights the recent legislative changes in Swaziland that may have an effect on the development of the SSX and the structure of the financial system in Swaziland. This chapter further inquiries into the theory and empirical studies which explain the synergies between the development of the financial system and economic growth. The benefits, challenges and connections of financial institutions within the financial system are also discussed. The literature will mainly focus on equity specifically.

2.2 Overview of Swaziland Financial System

The Swaziland financial system consists of a range of non-banking financial institutions, money markets and capital markets which include the banking sector. The banking sector is regulated by the Central Bank of Swaziland and the non-banking sector is regulated by the Financial Services Regulatory Authority (FSRA).

The bank supervision division of the Central Bank of Swaziland ensures that the banking sector maintains the set standards with regard to risk management strategies, capital adequacy, assets quality, management and board supervision, earnings performance and liquidity.

Swaziland has three commercial banks which are all subsidiaries of South African banks, namely: Standard Bank Swaziland, Nedbank (Swaziland) Limited and First National Bank of Swaziland. The Swaziland Development and Savings Bank is owned by the Swaziland government and has both a developmental and commercial mandate. The only bank listed on the SSX is Nedbank (Swaziland) Limited. The subsidiaries of South African banks dominate the banking sector as they accounted for 84.2% of the total banking sector assets in 2012⁶. The Swaziland banking sector is a highly concentrated banking industry due to the limited number of players in the market.

The Financial Services Regulatory Authority (FSRA) was established through the Financial Services Regulatory Act of 2010, and is responsible for the establishment and administration

⁶ Central Bank of Swaziland annual report for 2013

of an intergraded regulatory regime for the non-bank financial sector⁷ including capital markets, retirement funds, insurance companies, saving co-operatives and building societies. The FSRA became operational in October 2012 and has taken upon supervisory duties while still putting in place a regulatory framework.

Prior to 2010, there was no legislation governing the regulation of capital markets which presented challenges in terms of regulation and investor protection. In the absence of official legislation, the Central Bank of Swaziland exercised marginal control over capital markets under the Financial Institutions Order of 1975 and the Financial Institutions Act of 2005 and issued Collective Investment Schemes Guidelines and Stock Exchange Listing Requirements and Guidelines. The SSX is currently under the supervision of FSRA under the capital markets division. In 2013 capital markets institutions comprised of, four fund managers who have authorised collective investment schemes in Swaziland, two licensed stock brokerage firms, three companies authorised to be trustees and nine investment advisors⁸.

The office of the Registrar of Insurance and Retirement Funds (RIRF) was established through the Insurance Act and the Retirement Funds Act of 2005 in November 2006 and was responsible for the regulation of entities in the retirement fund and insurance industries prior to October 2012 and is now part of FSRA.

The non-bank financial sector's assets have been increasing consistently after 2009 which the IMF suggests is partly in response to the liquidity surge from the 30% domestic investment requirement stipulated in both the Insurance Act and the Retirement Funds Act of 2005⁹. Prior to the implementation of the FSRA Act of 2010, only the retirement fund and insurance industry were officially regulated through the Insurance Act of 2005 and the Retirement Funds Act of 2005.

⁷Entities regulated by the FSRA include long term insurers, short term insurers, insurance brokers, insurance agents, medical aid funds, retirement funds, fund administrators, SSX, securities dealers, collective investment schemes, investment managers, investment advisors, building societies, SACCOs, micro financiers, credit bureaus and prawn brokers

⁸The Financial Services Regulatory Authority Annual report for March 2013.

⁹IMF (2008) Kingdom of Swaziland Selected Issues and Statistical Appendix, IMF Country Report No. 08/355

2.3 Recent Legislative Developments in Swaziland

2.3.1 Insurance Act of 2005

The Insurance Act of 2005 directs that all entities dealing in the insurance industry in Swaziland be licensed. The role FSRA is to supervise activities of insurers and intermediaries in the insurance industry in terms of the Insurance Act of 2005 and to advise the minister on matters relating to the insurance industry in Swaziland¹⁰.

Prior to the implementation of the Insurance Act of 2005, one local insurance company, Swaziland Royal Insurance Corporation operated in Swaziland. Through the Insurance Act of 2005, the insurance market was liberalised and the monopoly that had existed in the insurance industry for approximately 30 years came to an end. In 2008 four more insurance companies were operating in Swaziland¹¹. The Insurance Act of 2005 stipulates that 30% of all insurers' assets at market value be invested in Swaziland cumulatively over a period of three years from 2007, in increments of 10% per year¹². Below is an assessment of the investment patterns of long term and short term insurers.

(a) Long Term Insurers

Table 1: Investment Mix of the Long Term Insurance Industry

LONG TERM INVESTMENTS - LOCAL Vs FOREIGN ASSETS					
	31-Mar-2013	31-Mar-2012	31-Mar-2011	31-Mar-2010	31-Mar-2009
Total local investments	345 543 816	289 914 869	284 863 972	200 787 519	121 355 968
Total foreign investments	1 352 477 042	997 659 861	769 002 304	620 296 873	498 828 748
Total Investments (E)	1 698 020 858	1 287 574 730	1 053 866 276	821 084 392	620 184 716
% Local investments to total	20%	23%	27%	24%	20%
% Foreign investments to total	80%	77%	73%	76%	80%
Total Investments (%)	100%	100%	100%	100%	100%

Source: Financial Services Regulatory Authority Annual Report 2013

According to FSRA annual report, Swaziland had six long term insurers in 2013. Total investments of long term insurers have been increasing from 2009 to 2013 due to increases in both local and foreign assets. Table 1 indicates that the long term insurance industry has not been in compliance with the 30% local investment requirement stipulated in both the Insurance Act and the Retirement Funds Act of 2005 since 2009. This may be a reflection that domestic capital markets lack of depth and are unable to provide investment opportunities with returns that are consistent with long term insurers' liabilities. Inadequate

¹⁰Office of the Registrar of Insurance and Retirement Funds Annual Report, 2011

¹¹Old Mutual, Liberty Life Swaziland, Metropolitan Life Swaziland and PFM Swaziland

¹²10% with effect from 01 November 2007; 10% with effect from 01 November 2008; 10% with effect from 01 November 2009

domestic investment opportunities can present a challenge for long term insurers in terms of asset-liability management.

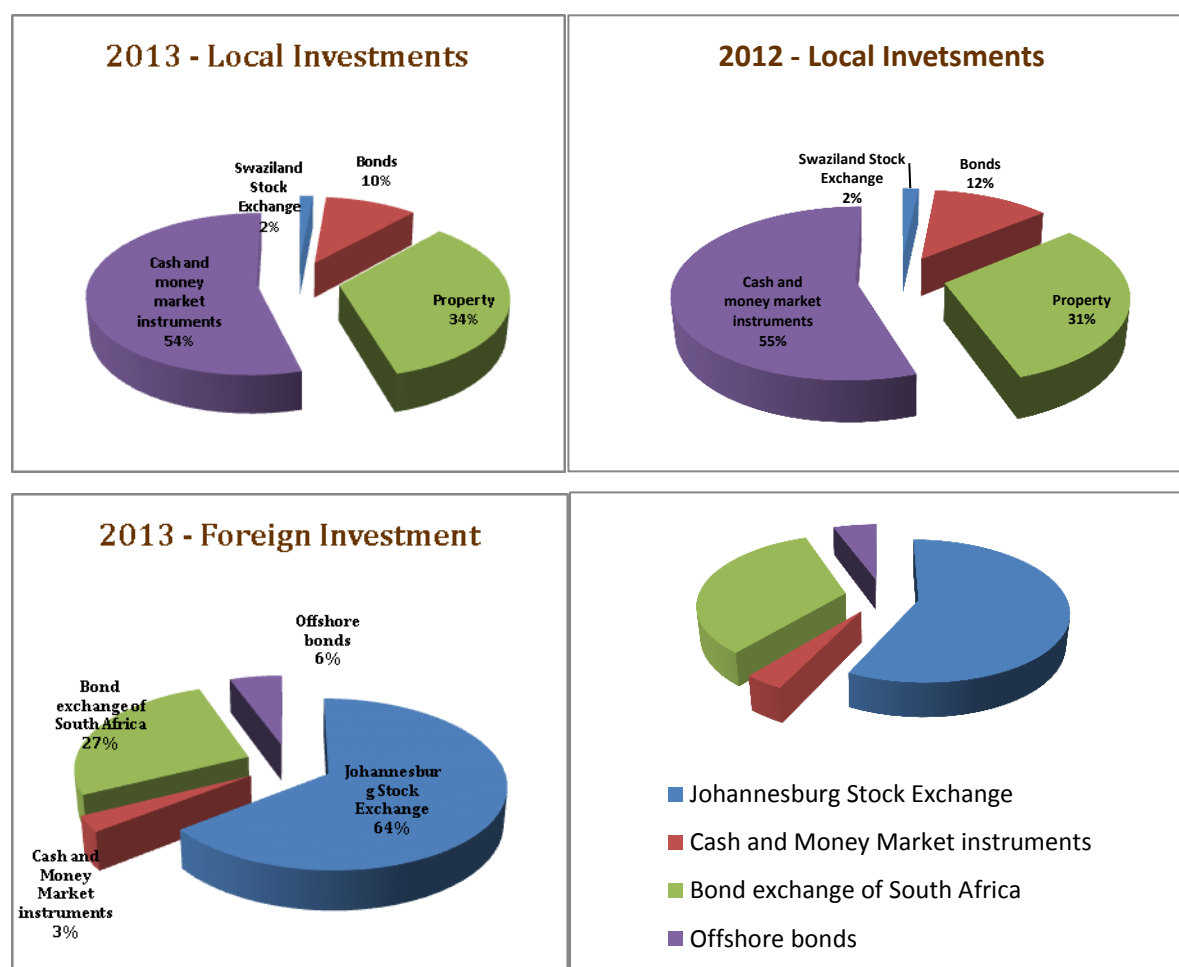


Figure 1: Local and Foreign Investment for Long Term Insurers by Asset Class 2012 and 2013

Source: Financial Services Regulatory Authority Annual Report 2013

A comparison of local and foreign investments in Figure 1 reveals that the majority of foreign assets were invested on the Johannesburg Stock Exchange (57% in 2012 and 64% in 2013) whereas only 2% of local investments of long term insurers were invested in the SSX in 2012 and in 2013 respectively.

A majority of local investments of long term insurers are held in the form of cash and money market instruments (55% in 2012 and 54% in 2013) while a smaller percentage of foreign assets are invested cash and money market instruments (4% in 2012 and 3% in 2013). 12% of local assets were invested in bonds in 2012 and this percentage decreased to 10% in 2013. A large portion of local assets were also invested in property which may better satisfy the asset-liability mix of long term insurers given the long term nature of property investments. The

FSRA has noted the large portion of domestic assets held in cash. In 2012 the Registrar of Insurance and Retirement Funds pointed out that assets invested as cash eventually found their way to South Africa and other foreign countries due to the large proportion of foreign banks which dominate the banking sector in Swaziland and this defeats the purpose of the 30% domestic investment requirement.¹³

Table 2: Investment Mix of Short Term Insurance Industry

SHORT TERM INVESTMENTS - LOCAL Vs FOREIGN ASSETS					
Year Ended	31-Mar-2013	31-Mar-2012	31-Mar-2011	31-Mar-2010	31-Mar-2009
Total local investments	168 636 124	167 631 558	196 190 167	193 319 692	164 403 998
Total foreign investments	266 276 737	368 718 030	365 738 042	305 494 080	266 871 784
Total Investments (E)	434 912 861	536 349 588	561 928 209	498 813 772	431 275 782
% Local investments to	39%	31%	35%	39%	38%
% Foreign investments to	61%	69%	65%	61%	62%
Total Investments (%)	100%	100%	100%	100%	100%

Source: Financial Services Regulatory Authority Annual Report 2013

Table 3: Local Investment for Short Term Insurers by Asset Class

LOCAL INVESTMENTS					
Type Of Investment	31-Mar-2013	31-Mar-2012	31-Mar-2011	31-Mar-2010	31-Mar-2009
Swaziland Stock Exchange	4 126 120	4 338 620	1 330 000	1 330 000	1 330 000
Bonds	-	-	-	-	-
Property	34 654 421	32 437 620	29 420 001	28 400 000	25 000 000
Cash and money market	129 855 583	130 855 318	165 440 166	163 589 692	138 073 998
Total Local Investments	168 636 124	167 631 558	196 190 167	193 319 692	164 403 998

Source: Financial Services Regulatory Authority Annual Report 2013

¹³Times of Swaziland, March 5, 2012, “RIRF to cut cash assets held by insurance players”

Table 4: Foreign Investment for Short Term Insurers by Asset Class

FOREIGN INVESTMENTS, CASH AND CASH EQUIVALENTS					
	31-Mar-2013	31-Mar-2012	31-Mar-2011	31-Mar-2010	31-Mar-2009
Johannesburg Stock Exchange	72 282 931	117 691 546	199 350 714	169 716 842	166 771 585
Offshore equities	64 671 826	72 506 365	21 499 682	18 303 712	13 446
Bond exchange of South Africa	23 166 564	25 530 058	68 126 488	57 999 353	42 608
Offshore bonds	-	-	8 464 564	1 330 000	1 330 000
Cash and Money Market	106 155 416	152 990 061	68 296 594	58 144 173	42 714
	266 276 737	368 718 030	365 738 042	305 494 080	266 871 784
TOTAL INVESTMENTS	434 912 861	536 349 588	561 928 209	498 813 772	431 275 782

Source: Financial Services Regulatory Authority Annual Report 2013

Table 2 indicates that the total investments of short term insurers increased from 2009 to 2011 and decreased between 2012 and 2013. Despite the decrease in total investments of short term insurers in 2012 and 2013, the short term insurance industry has been in compliance with the 30% local investment requirement since 2009 and domestic investments ranged from 31% to 39% of total assets of short term insurers from 2009 to 2013.

Table 3 and 4 indicate that a majority of both local assets (77%) and a significant percentage of foreign assets (40%) of short term insurers were invested in cash and money market which is not surprising as short term insurers have shorter term liabilities than long term insurers. The large proportion of short term insurers' assets invested domestically, above the required 30% minimum, suggests that Swaziland money market instruments currently provide investment opportunities with returns that are consistent with short term insurers' liabilities.

Table 3 indicates that short term insurers did not hold any local investment in the form of bonds in both 2012 and 2013 and only invested 2% and 3% in local equities listed on the SSX in 2012 and 2013 respectively. The breakdown of local and foreign assets of both long term and short term insurers suggests that long term insurers have more of an active role to play in the development domestic capital markets due to the long term nature of their liabilities.

2.3.2 The Retirement Funds Act of 2005

Before the establishment of the Retirement Funds Act of 2005, retirement funds were required to register with the Income Tax Office for taxation reasons. The Retirement Funds

Act of 2005 requires that 30% of all retirement funds' assets at market value be invested in Swaziland cumulatively over a period of three years from 2007, in increments of 10% per year¹⁴. Below is an assessment of the investment patterns of retirement Funds.

Table 5: Investment Mix of Retirement Fund Assets

RETIREMENT FUNDS - LOCAL VS FOREIGN ASSETS					
Year end					
	31-Mar-2013	31-Mar-2012	31-Mar-2011	31-Mar-2010	31-Mar-2009
TOTAL LOCAL INVESTMENTS	5 223 198 949	4 301 219 033	3 618 499 127	3 657 486 061	1 746 872 527
TOTAL FOREIGN INVESTMENTS	12 738 848 563	10 797 241 792	9 872 205 460	9 143 120 618	9 436 034 983
TOTAL INVESTMENTS	17 962 047 512	15 098 460 825	13 490 704 587	12 800 606 679	11 182 907 510
% LOCAL INVESTMENTS TO TOTAL INVESTMENTS	29%	28%	27%	29%	16%
% FOREIGN INVESTMENTS TO TOTAL INVESTMENTS	71%	72%	73%	71%	84%
TOTAL INVESTMENTS	100%	100%	100%	100%	100%

Source: Financial Services Regulatory Authority Annual Report 2013

Table 5 indicates that total investments have been increasing from year to year from 2009 to 2013 and on average the proportion of local investment to foreign investments has increased over the years under review. However, the retirement fund industry has not been in compliance with the 30% local investment requirement since 2009 although the industry has been close to compliance.

¹⁴ 10% with effect from 01 November 2007; 10% with effect from 01 November 2008; 10% with effect from 01 November 2009

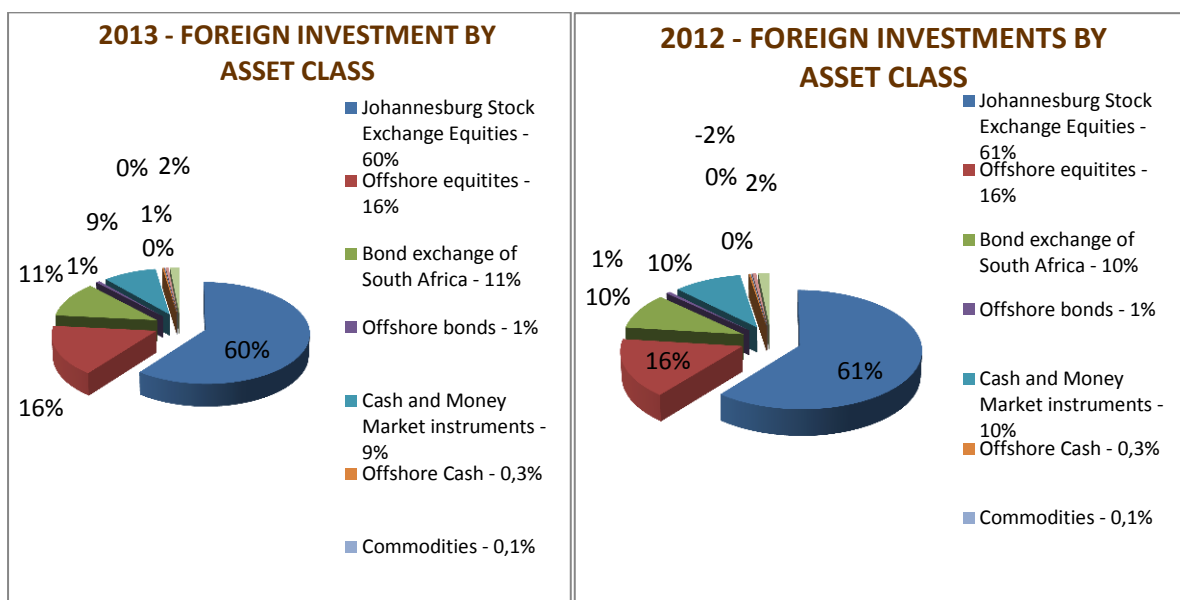
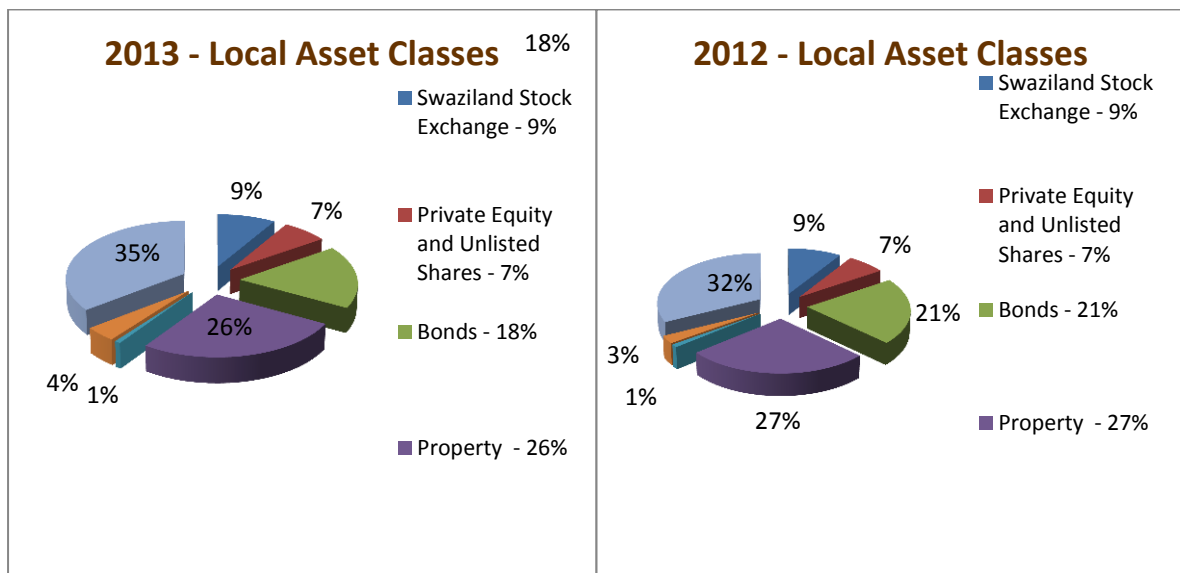


Figure 2: Local and Foreign Investments for Retirement Funds by Asset Class 2012 and 2013

Source: Financial Services Regulatory Authority Annual Report 2013

The comparison between local and foreign investments in Figure 2 reveals that the majority of foreign assets were invested on the Johannesburg Stock Exchange (61% in 2012 and 60% in 2013) whereas 9% of local investments of retirement were invested in the SSX in 2012 and 2013 respectively. A large portion of local investments of retirement funds are held in the form of cash and money market instruments (32% in 2012 and 35% in 2013) while a smaller percentage of foreign assets are invested in cash and money market instruments (10% in 2012 and 9% in 2013). 21% of local assets were invested in bonds in 2012 and 18% in 2013.

2.3.3 The Financial Services Regulatory Authority Act of 2010

The Financial Services Regulatory Authority (FSRA) was established through the Financial Services Regulatory Act of 2010. It is responsible for the establishment and administration of an integrated regulatory regime for the non-bank Financial Sector including capital markets, retirement funds, insurance companies, saving co-operatives and building societies.

2.3.4 The Securities Act of 2010

The Securities Act of 2010 aims to encourage and facilitate the development of an orderly, fair and efficient capital market in Swaziland.

2.3.5 Swaziland Revenue Authority Act of 2009

The Swaziland Revenue Authority (SRA) came into effect in 2009 through the Swaziland Revenue Authority Act of 2008. SRA is a semi-autonomous agency responsible for collection of all revenue on behalf of the Swaziland Government. The SRA Act of 2009 read in conjunction with the Income Tax Order of 1975 has a provision for tax incentives which promote retirement fund savings. However, the SRA Act of 2009 does not have provisions for tax incentives¹⁵ which promote participation of corporations on the SSX specifically.

2.4 Domestic Retention Policies For Contractual Savings Institutions in Africa

The question of whether the domestic retention policies assist in developing capital markets and whether the benefits outweigh the opportunity cost of such policies is debatable. Kenny and Moss (1998) noted that African Governments can influence local interest in the stock exchanges by creating incentives such as, tax incentives that encourage investment and legally requiring institutional investors such as pension funds to invest in-country to increase local liquidity. On the other hand Hearn and Piesse (2009) identified domestic retention policies as one of the barriers to the development of SADC stock markets.

Other countries in Sub Saharan Africa¹⁶ have similar domestic retention limits to the 30% local investment requirement for retirement funds and insurance companies in Swaziland. Hearn and Piesse (2009) highlighted that domestic investment retention policies which are implemented to encourage firms to list locally rather than list on much more attractive stock markets such as the JSE may have a negative effect on domestic markets as they may deter

¹⁵Such incentives could be in the form of a reduction in corporate tax for companies that list of the SSX

¹⁶The domestic retention requirement for insurance companies and retirement funds is 35%, 30% and 100% for Namibia, Botswana and Kenya respectively

corporate listings altogether and reduce risk adjusted return because of the high cost of capital. Hearn and Piesse (2009) suggest that the 35% domestic retention policy in Namibia had little effect on reducing capital flight and retaining listings as over 67% of the listed firms in Namibia migrated their primary listings to the JSE which decreased liquidity domestically and increased the cost of capital.

In 2011, it was noted that there was an increase in the number of non-bank financial institutions in Swaziland which was mostly attributed to the liquidity surge triggered by both the Retirement Funds Act and Insurance Act of 2005, particularly the 30% domestic retention requirement¹⁷. The IMF is of the view that institutional investors have the potential to contribute to the development of securities markets¹⁸ subject to the development of effective trading systems, modern accounting and auditing standards and efficient information disclosure. The 30% domestic investment requirement for retirement funds and insurance companies in Swaziland has led to an injection of liquidity, specifically in the local banking sector where institutional investors hold some assets as term deposits with minimal return. However, in 2012 the Registrar of Insurance and Retirement Funds noted with concern that assets invested as cash eventually found their way to South Africa and other foreign countries due to the large proportion of foreign banks which dominate the banking sector in Swaziland and that this defeats the purpose of the 30% domestic investment requirement¹⁹.

2.5 Financial System Development and Economic Growth

The financial system is defined as a set of arrangements embracing the lending and borrowing of funds by economic units and the intermediation of this function by financial institutions. The definition for of financial system subsumes financial intermediaries and financial markets which perform the crucial economic function of channelling fund from surplus saving units to deficit saving units. A well-functioning financial system has the following benefits for the economy: increased liquidity; more efficient diversification of risks; reduction in transactional costs by decreasing information asymmetry; minimization of systemic risk; and more efficient allocation of resources²⁰. Rousseau and Sylla (2001) suggest that a good financial system is one that is made up of five components²¹ of which a well-functioning securities market and banking sector are included. Most countries in Sub

¹⁷Swazi Observer, December 1, 2011, “Weak Supervision in Financial Sector”

¹⁸IMF(2008) Kingdom of Swaziland: Selected Issues and Statistical Appendix, IMF Country Report No. 08/355

¹⁹Times of Swaziland, March 5, 2012, “RIRF to cut cash assets held by insurance players”

²⁰Van Zyl, C. Botha, Z. and Skerrett, P. (Second Edition) *Understanding South African Financial Markets*, Second Edition., Pretoria.

²¹Sound public finances and public debt management; stable monetary arrangements; a variety of banks, some with domestics and others with foreign orientation or both; a central bank and a well-functioning securities market.

Saharan Africa excluding South Africa are still lagging behind in the area of well-developed securities markets as pointed out by Hearn and Piesse (2009).

Theorists suggest that financial markets and institutions help firms overcome the problem of asymmetric information, particularly the problems of moral hazard and adverse selection and therefore reduce the firms cost of capital. Rajan and Zingales (1998) found that financial markets and institutions reduce the cost of external finance for firms thus promoting economic growth and the existence of a well-developed market in a certain country can represent a competitive advantage for that country in industries that are more dependent on external finance. Thus a well-functioning financial market which reduces transaction costs; allows for effective production of information, allows for effective risk sharing and minimizes systemic risk is desirable for economic growth. It appears that it would be in the interest of most developing countries to build a foundation and implement policies that would support the development of well-functioning financial systems.

The most consistent reason countries aim to promote financial development is because of the perceived link between financial development and economic growth. It is important for policy makers to appreciate the relationship between economic growth and financial development as this may assist them in implementing policies for financial sector reforms. Some literature and empirical studies over the past decades have inferred a nexus between economic growth and financial system development. Greenwood and Jovanovis (1990) established that growth and financial structure are interrelated and that growth provides the assets to promote financial system development which in turn facilitates higher growth. Levine and Zervos (1996) present empirical evidence of a positive relationship between financial development and economic growth. Greenwood, Sanchez and Wang (2013) applied a state verification model to U.S. and cross country data in order to determine the importance of financial development for economic growth and their findings suggested that financial development, captured through financial sector intermediation, is significantly important for economic growth.

However, the direction of causality between economic growth and financial development is an ongoing debate. Patrick (1966) found that the direction of causality between financial development and economic growth depends on the level of economic development and that at a certain level of development; financial development will lead to economic growth and at a

certain level growth can pull finance. Greenwood et al (2013) suggest that a developing country can increase its output by adopting the world's best practice in the financial sector.

2.6 Role of a Stock Exchange in the Economy

Historically, a majority of African economies have been dependant on the banking sector for external finance. However, African countries have shown an increased need for the accelerated development of functioning, well organised capital markets which will foster economic growth as noted in an African NEPAD round table discussion in 2009 where African financial markets and economic growth were a topic of discussion. In roughly the last two decades there has been a notable increase in the number of African stock exchanges as part of the World Bank and IMF structural adjustment programmes which were fostering stock market development in Sub Saharan Africa as a component of comprehensive economic reform and financial liberalisation.

Hearn and Piesse (2009) identified three objectives for the establishment of a stock exchange which include: diversification of ownership and promotion of privatisation programmes; provision of a point of exit for venture capital firms seeking to liquidate their investment and reduction of the cost of capital for listed firms. One of the main factors identified as deterring the efficiency of African financial markets was the relatively narrow and illiquid financial markets that exist in most African countries.

Marone (2003) highlighted that in small economies liquidity may be affected by the dominance of a small number of firms in the market which may result in the manipulation of stock prices. Further, a majority of firms in developing economies may not be in position to issue shares which results in a small number of listed shares. Hearn and Piesse (2009) concur that illiquid markets can hinder the price discovery process as illiquid markets lead to information inefficiencies.

Advocates of stock exchanges in developing economies highlight the advantages for diversification potential of stock exchanges in developing countries. Kenny and Moss (1998) evaluated the economic criticisms of stock markets and they suggest that many African stock markets may not appear to be attractive at face value because of the relatively small size, illiquidity and often unstable political and economic environment; however these markets have the potential to expand in response to improved regulatory and economic environment.

Kenny and Moss (1998) suggest that small stock exchanges can be beneficial to investors as they present an opportunity for portfolio diversification and high growth potential. They conclude that the positive economic effects of stock exchanges on economies in Sub-Saharan Africa are greater than the negative effects. Hearn and Piesse (2009) also suggest that countries like Swaziland and Mozambique have the potential for international investor diversification due to their low correlation with global indexes; however for this opportunity to be exploited they suggest an improvement in the liquidity of the stock exchanges.

Andrianaivo and Yarty (2010) state that despite the small size and low liquidity African stock markets are very attractive in terms of risk and return. Prayag, du Toit, Kenmuir, Morrison and Tembo (2010) investigated the impact of the inclusion of frontier market equities as a separate asset class in a diversified portfolio which consists of developed market and emerging market equities. The recommendation of the study was that equities of frontier markets should be included in the diversified international portfolio of long term investors. They argue that including frontier markets in a diversified portfolio may improve the risk-return characteristic of the portfolio especially considering the increased extent of global integration of emerging markets in the last few decades²².

Minier (2009) compared the average growth experience of 54 countries that opened a stock exchange between 1960 and 1998 to a priori similar countries that did not open an exchange and found that countries that opened a stock exchange grew faster on average, than similar countries that did not. Minier (2009) provides evidence that opening a small and relatively illiquid stock exchange is still correlated with on-average higher rates of economic growth. Minier (2009) suggests that the positive correlation between opening a stock exchange and subsequent growth rates is due to more efficient allocation of resources.

2.7 Critics of Establishment of Stock Exchanges in Developing Countries

Critics of stock market establishment in developing countries argue that the benefits of establishing stock exchanges in these countries at their current level of development do not outweigh the costs. Singh (1999) considered the advantages and disadvantages of opening stock markets in Sub-Saharan countries at the present stage of their development and concluded that for most African countries the establishment of a stock exchange would be costly and unnecessary especially considering their weak private sectors. This intuitively

²²For a fuller discussion of the integration of emerging markets to global markets, see Harvey(1995a)

makes sense as mostly established firms' access additional finance through stock exchanges. Singh (1999) suggests that it is better to use scarce resources to improve the banking system than establish a stock exchange in Sub Saharan African economies as most banking systems in most of these economies are inadequate. Singh (1999) also suggests that the establishment of a stock market in an economy with a weak banking sector could add to the instability of the financial system and would most likely not meet the savings and investment needs of a bulk of the workforce, especially those involved in informal activities or agriculture.

Marone (2003) studied the economic rationale for the establishment of the Lusaka Stock Exchange and suggests that the Lusaka Stock Exchange does not have a significant effect on the Zambian economy as a whole. He suggests that there is a scarcity of studies on the impact of stock exchanges on African economies and that the creation of such exchanges may be a premature project even though theoretically stock markets can boost savings through the provision of alternative saving instruments that may better fit the risk and liquidity requirements of investors. Marone (2003) points out that savings rates are mostly low in small African economies and households still prefer to invest in assets that still keep their intrinsic value even when there is monetary depreciation such as cattle. Marone (2003) also suggests that the small number of listed companies in most Sub-Saharan economies limits the domestic investors' ability to diversify firm specific risk and makes investing in stock in such markets very risky. Hearn and Piesse (2009) found that most investors would rather minimise holdings in Swaziland or Mozambique and invest in South Africa or global markets due to the volatility in stock prices in illiquid markets and highly illiquid markets fail to compensate for the potential higher returns. Therefore, risk averse investor tend to demand high returns as the risk of holding stocks in these economies are too high and by extension this results in an increase in the cost of capital and discourages firms from selling shares as a way of raising funds.

2.8 Relationship between the Banking Sector and the Stock Market

The question of whether developing countries should prioritise the development of stock markets or the improvement of the banking sector is an ongoing debate. Historically the banking industry in most African countries has been the most popular capital market and is normally characterised by a high presence of foreign owned banks. Andrianaivo and Yarty (2010) argue that indicators of banking industry financial depth in Africa are the lowest in the world thus banks play a less than perfect role in African economies. This implies that

there is a place for stock exchanges in Africa to provide an avenue for firms to access additional capital.

Andrianaivo and Yarty (2010), also indicate that banking systems in Africa are normally concentrated due to the small market size of most African economies. The high concentration of the banking sector could lead to a monopoly (price setters); hence the high concentration of the banking sector could have a negative effect on the affordability of funds (higher discount rate) and possibly lead to less investment opportunities exploited and less production. In this case the presence of a stock exchange may be beneficial as the stock exchange can compete with the banking sector to reduce the cost of capital.

On the other hand, Andrianaivo and Yarty (2010), also point out that the African banking sector is relatively more profitable even though they are less efficient than other countries and Hearn and Piesse (2009) point out that in most small African economies bank credit is still cheaper than sourcing additional funds from the stock exchange.

The efficiency of the banking sector in a financial system is very important as banks play an important intermediation role. Some literature²³ indicates that stock market development and banking sector development are highly correlated and initially stock market development is supported by the banking sector through trade intermediation. However, as the stock market develops it could compete with the banking sector. Demircug-Kunt and Levine (1996) found that majority of stock market development indicators are highly correlated with banking sector development indicators. Therefore, one would expect countries with well-developed banking sectors to have well developed stock markets.

Cihak, Demircug-Kunt, Feyen and Levine (2012) found that securities markets are relatively more important at a higher income level and that as the economy grows, the relationship between economic activity and bank development tends to weaken and the relationship between economic activity and securities markets development tends to strengthen. In other words as income increases the additional economic activity related with bank development decreases while the additional increase associated with an increase in securities markets development rises. Intuitively this makes sense as countries with a low GDP per capita are more likely to have a lower savings rate than countries with higher GDP per capita. Hearn and Piesse (2009) identified poverty as one of the barriers to the development of SADC stock

²³See Demircug-Kunt and Levine (1996)

markets and due to poverty, saving rates as a proportion of GDP are relatively low in these countries which results in less public participation in securities markets.

2.9 Role of Bond Market

Domestic bond markets are divided between government bond market and corporate bonds market. Thumrongvit, Kim and Pyun (2013) point out that a majority of literature on economic growth have disregarded the role of the bond market because bond financing is subsumed as an element of debt financing²⁴ and whilst stocks are traded at exchanges where their price discovery process can be analysed by trading data, bonds are traded over the counter, where transaction data and microstructure of markets are publicly available.

Major investors of bonds in most economies are retirement funds, long term insurance companies, banks and mutual funds. Thumrongvit et al (2013) highlight that ,especially for developing countries, the following issues are specified in support of bond market development: (a) the elderly population for whom a large portion of retirement investments are to be invested in low risk and highly liquid bond markets (b) promotion of an information clearinghouse for bonds in order to improve understanding of the microstructure of the bond market and (c) promotion of transparency and efficiency in the bond market by ensuring a stronger regulatory environment for governance and disclosure.

Thumrongvit et al (2013) used a panel of 38 countries to assess the relationship between economic growth and the stock market, banks and the bond market. They found that both stock market and banking promote economic growth, however, they also found that government bonds are negatively related to economic growth and the results of corporate bonds are statistically insignificant. Thumrongvit et al (2013) suggest that the negative relationship between government bonds and economic growth is logical as an increase in government spending actually decreases funds available to the private sector²⁵ and a majority of government spending is on public goods such as national defence and the costs are not reflected in the benefits on society receives. Thumrongvit et al (2013) suggest that the finding that the relationship between corporate bonds and economic growth is statistically insignificant can be explained by the fact that bond markets worldwide are still dominated by government bonds and the corporate bonds markets is very small relative to the government

²⁴Debt financing in most economies was historically dominated by banks

²⁵ The crowding effect of government borrowings that reduces the level of corporate borrowing

bond market and the increases of new issues of corporate bonds are not followed by corresponding trading in the secondary market where trading is not as transparent.

Thumrongvit et al (2013) also stress the importance of bond markets as they set the benchmark interest rates for all debt instruments with varying maturities and risk (encouraging the efficient use of resources). Bond markets are also anticipated to grow in developing countries as they can be a defence measure against financial crisis. They further point out that in the absence of bond markets, banks could end up having excess deposits which may lead them to make suboptimal loans and result in inefficient allocation of resources.

Using quarterly data, Fink, Haise, Kirchner, and Moser (2006) examined the correlation between net issue value of aggregate bonds, as well as the different bond sectors separately, and economic growth. They found that on sector level causalities run from economic growth to public sector bonds and from corporate and financial institution bonds to economic growth. Despite the direction of causality the findings reveal a positive relationship between bond markets and economic growth. Fink et al (2006) point out that financing through public bonds especially, is a transmission channel for monetary policy for the public sector and a more restrictive monetary policy reduces the supply of bank loans which causes the private sector to explore other forms of debt capital. They also point out that public sector bonds can be used for investment diversification as they are mostly secure and liquid assets.

2.10 Role of Institutional Investors in the Development of Stock Exchanges

Institutional investors are considered one of the most important streams of private and public savings which supply capital to firms. Hearn and Piesse (2009) highlight the importance of institutional investors for African capital markets, particularly pension and insurance companies, as they can create a demand for more long term investments in order to diversify their risks and the lack of institutional investors in most African countries was identified as a barrier to the development of stock exchanges. Catalan et al (2000) indicated that contractual savings increase supply of long term funds and develop capital markets in an economy because contractual savings institutions have long term liabilities on their balance sheet and they have an advantage over banks in financing long-term ventures²⁶. Catalan et al (2000) found that the countries with more developed contractual savings sectors also had more

²⁶Due to the long term nature of their liabilities of contractual savings institutions their investment policies are more likely to be biased towards equities and long term bonds.

developed stock markets and the countries where contractual savings grew the most are also the countries that experienced the highest growth in market capitalisation. However, a majority of Sub Saharan countries interested in developing contractual savings typically have underdeveloped capital markets which are small and illiquid. This presents a challenge for contractual savings institutions when scouting for lucrative investment opportunities domestically.

Catalan et al (2000) suggest that there are still substantial benefits from developing the contractual savings sector even if capital markets are underdeveloped. They suggest that in countries with underdeveloped capital markets, contractual saving institutions could invest in long term loans, corporate bonds, government securities and foreign securities while developing domestic capital markets. However it must be noted that investment in foreign securities may hinder the development of domestic capital markets. Domestic retention policies could assist in preventing excessive capital flight and ensure that a portion of the resources of domestic contractual savings institutions are channelled towards the development of the domestic financial system. However, should a domestic retention policy be enforced, policy makers need to assess whether such a policy would result in an inefficient combination of risk and return and, whether the opportunity costs of such a policy are substantial.

The IMF is of the view that non-banking financial institutions such insurance companies are likely to encourage competition, improve financial information, stimulate financial innovation and strengthen corporate governance and regulation, however, the challenge remains finding the correct channels to put these resources to productive uses²⁷. Raddatz and Schmukler (2008) highlight that one of the key motivations for pension reforms is the expectation that pension funds will play a role in the development of domestic capital markets in a broader strategy to develop a more developed financial system.

Pension funds in Chile face regulatory requirements²⁸ to invest a fraction of assets in the domestic economy and they are expected to invest in domestic assets and diversify risk as much as possible within the country. A majority of Eastern Europe and Latin American countries developed regulations that prohibit pension funds to invest abroad. The Chile

²⁷IMF(2008) Kingdom of Swaziland: Selected Issues and Statistical Appendix, IMF Country Report No. 08/355

²⁸The legislative requirement for pension fund to invest a portion of assets domestically is also prevalent in some countries in sub Saharan Africa including Swaziland, Namibia and Botswana.

pension fund industry was created in 1981 and investments abroad were only allowed in 1990. The limit is set by the Central Bank and has been increasing steadily since²⁹. Bernstein and Chumacero (2006) point out that the prohibition of foreign investments has been changing in some countries³⁰ as the pension system mature. The trend towards an increase in foreign investment limits could reflect the growing importance of foreign investments for diversification. Bernstein and Chumacero (2006) assessed the effects of the regulation on investment restrictions³¹ that prevents pension funds in Chile from choosing their portfolio allocation and found that the regulation entails an inefficient combination of risk and return and that the cost of such regulations may be substantial.

Raddatz and Schmukler (2008) assessed how pension funds affect capital market development in Chile, particularly, the secondary market by assessing pension fund investment patterns and constraints. They found that the patterns found in the study do not support the idea that pension funds are drivers of overall capital market development. Raddatz and Schmukler (2008) also found that pension funds in Chile exhibited low turnover of securities which does not support the idea that they significantly increase liquidity in the secondary market. They suggest that the low turnover may be due to limited investment opportunities which results in pension funds purchasing securities and holding them up to maturity rather than sell them in an illiquid secondary market. Raddatz and Schmukler (2008) also found that most pension funds hold a large fraction of their assets in instruments that are easily liquidated such as bank deposits and short term instruments among fixed-term securities which does not support the idea that they help provide long term financing in the economy.

It is important that retirement funds invest in a prudent manner which takes their long term liabilities into consideration and this task normally requires an in depth knowledge of financial markets which most retirement fund trustees lack. Most retirement funds use the services of professional asset manager to help them invest their assets. However, Raddatz and Schmukler (2008) suggests that there may be conflict between the goals of retirement funds to yield high long term returns while on the other hand asset managers must yield reasonable short term returns to keep attracting investors and retain clients. They also suggest that while pension funds are perceived to be long term investors, they are more of asset

²⁹The investment limit on foreign securities and investments abroad were increases 30% in 2004 and these limits were reached by end 2005.

³⁰Pension reform in Mexico started in 1997 and a regulation of investments abroad was issued in 2000 with a limit of 20% of pension fund assets and the investment limit on foreign securities was increased to 30% in 2004 in Chile.

³¹The Law stipulates a range of maximum percentages of fund assets that can be invested in each instrument.

managers than asset liability managers³². Singh (1999) points out that domestic institutional investors with long term liabilities have the potential to play an important role in the development of local capital markets, however, asset managers whose services institutional investors use, are highly competitive and their performance is judged over a relatively short term which could lead to short termism.

2.11 Institutional Structures and Stock Exchange Development

Marone (2003) pointed out that the stock market is not an institutional island and it requires a favourable political, economic and regulatory environment for it to flourish. Thus in order to identify impediments to the development of the stock exchange, macroeconomic and institutional factors that affect the development of the stock exchange need to be assessed for effective policy implementation that promotes development of the financial system as whole.

Ladekarl and Zervos (2004: 267) hypothesize that “the determination of whether a country is investable or not is influenced by a number of factors especially related to the size, ‘housekeeping’ (macro – policies, political economy, local financial markets, corporate governance, etc.) and efficiency of ‘plumbing’ (legal and regulatory framework, custody, clearing and settlement, taxes, etc.)”. It appears appropriate for developing countries to assess the underlying size, ‘housekeeping’ and ‘plumbing’ factors specific to them before any policy recommendations can be made.

Demirguc-Kunt and Levine (1993) indicate that stock market development can be assessed using the following traits: (1) traditional characteristics, which include market capitalisation, the amount of new capital raised through stock offerings, the number of listed companies and turnover; (2) institutional characteristics, which include regulations, information disclosure, transparency rules and trading costs and (3) asset pricing characteristics, which is the effectiveness with which the market prices risk and the degree of integration into the world stock markets. The traits highlighted by Demirguc-Kunt and Levine (1993) as characteristics of stock market development have similarities to the factors highlighted by Ladekarl and Zervos (2004) for determining whether a country is investable or not.

³² Asset- liability managers seek returns that are consistent with their long term liabilities e.g. annuity providers and defined benefit pension funds.

Ladekarl and Zervos (2004: 267) indicate that from the foundation of their paper “the most profound effects on investment flow, or the required minimum expected return arise from advances or declines in macro-policies”. However, they further indicated that “at the margin, improvement can be made in country policies that will, for a given macro situation, improve the ability of a country to attract international investment flows”. Thus, it appears that appropriate capital markets legislation can go a long way in fostering a sound securities market even though in certain circumstances macro – policies may not be as enabling.

3 CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter focuses on the methodology used to carry out the research. The chapter begins with a restatement of the problem statements for ease of reference. The stochastic model used and the research design and analysis are also extensively elaborated on in this chapter. The limitations of the research approach and methodology are highlighted at the end of this chapter. The research is primarily quantitative with a smaller qualitative aspect.

3.2 Problem Statements

a) Problem statement 1: There is a poor linkage between the intentions of the 30% domestic investment requirement stipulated in both the Retirement Funds Act and the Insurance Act of 2005 and the development of the SSX, specifically the public equity market. Currently the impact of the 30% domestic investment requirement on the SSX has not been assessed thus there is no empirical evidence regarding the financial impact these Acts on the SSX in particular.

b) Problem statements 2: The stock exchange is underdeveloped and there are certain impediments that exist to its development. Hearn and Piesse (2009) found that the SSX is a small and illiquid stock exchange which is still underdeveloped. In theory a well-organized stock exchange is instrumental in mobilising capital in an economy by connecting those who need capital with providers of capital. It is questionable whether the SSX is currently carrying out its intended purpose efficiently.

3.3 Population and Research Sample

3.3.1 Qualitative Sample

The qualitative primary data was collected through questionnaires administered to key industry players which include stock brokers and SSX personnel. Swaziland has a total population of two stock brokers. One broker responded to the questionnaires and this sample represents 50% of the population. This may result in the problem of bias as the views of only one broker will be considered for the purposes of this research.

The element of biasness due to the small population of brokers is countered by administering a similar questionnaire to personnel of the SSX who are expected to have a broader insight on capital markets.

3.3.2 Quantitative Sample

The sample for the quantitative study is drawn from 2006 to 2012 (7 years). Quarterly data is utilised for the study which consists of a sample of 28 observations. The basis for the selection of this data sample is highlighted below:

a) Schedule 1 of the Retirement funds Act of 2005 and Schedule 3 of the Insurance Act of 2005 stipulate that 30% of all assets of retirement funds and insurance companies be invested locally at market value over a period of 3 years in increments of 10% in 2007, 20% in 2008 and 30% in 2009. The first assumption is that as at 01st November 2009 a majority of the regulated entities were close to compliance or had already complied with the 30% domestic retention requirement. This assumption is supported by information from the RIRF Annual Report for 2009 which indicates that 19% of retirement fund assets and 41.5% of local insurers assets were invested locally.

b) The second assumption is that prior to 2009, regulated entities were nowhere near compliance with the 30% domestic investment requirement. This assumption is supported by the RIRF Annual Report for 2008 (the first published report) which reveals that a meagre 7% of retirement funds' assets were invested in Swaziland in 2008. The study assumes that compliance towards the 30% domestic retention requirement before 2009 was negligible and the observations in this period are considered to be before compliance with of the 30% domestic retention requirement in 2009.

3.4 Research Design

The research is primarily quantitative in nature with a smaller qualitative aspect. The research approach considers the impact of the 30% domestic investment requirement on the development of the SSX, specifically the public equity markets, as a platform for asset allocation. The research also considers the current impediments to the development of the stock exchange. The evaluation of the study has a domestic focus. This section provides a description of the nature of the study and the research design used to answer the research questions.

3.4.1 Qualitative Research Design

The qualitative primary data was collected through questionnaires administered to key industry players which include stock brokers and key personnel of the SSX.

The questionnaire completed by the stock brokers and SSX personnel includes questions on their professional opinion of the main impediments to the development of the SSX and their opinion on the impact, if any, of the 30% domestic retention requirement stipulated in both the Retirement Funds Act and the Insurance Act of 2005 on the development of the SSX. The questionnaire administered to the personnel of the SSX is similar to the questionnaire administered to stock brokers.

The primary qualitative data is supplemented by secondary qualitative data obtained from the SSX Development Reports, RIRF Annual Reports, Central Bank of Swaziland Annual Reports, FSRA Annual Reports and World Bank and IMF Reports on Swaziland. The qualitative aspect of the study complements the findings of the quantitative study.

3.4.2 Quantitative Research Design

The quantitative research encompasses the use of a quasi-experimental time series design which involves making a series of observations and introducing an intervention, which is the 30% domestic retention requirement, and then making additional observations.

a) The Intervention

The intervention for the purposes of this study is the legislative requirement stipulated in both the Retirement Funds Act and Insurance Act of 2005 which stipulate that from 1 November 2009 onwards, 30% of all retirement funds' and insurance companies' assets should be invested in the Swaziland domestic economy at market value. Thus, for the purposes of this study the intervention date is 1 November 2009.

Historically, the majority of institutional investors, such as retirement funds, insurance companies and collective investment schemes (unit trusts) have held their investments outside Swaziland, especially in neighbouring South Africa due to the lack of investment opportunities locally and the lack of depth of domestic capital markets. Swaziland is a member of the Common Monetary Area (CMA), which provides for the free movement of capital within member states, which are Lesotho, Namibia, Swaziland and South Africa.

The regulator of the non-bank financial institutions in Swaziland (FSRA) has the task of enforcing and monitoring compliance of regulated entities with the 30% domestic investment requirement stipulated in both the Retirement Funds Act and the Insurance Act of 2005. The purpose of the 30% domestic investment requirement has a developmental focus as it aims to increase liquidity of the domestic financial markets in order to improve the performance of the Swaziland economy as a whole, particularly financial markets. One of the aims of the 30% domestic investment requirement is the development of domestic capital markets as retirement funds' and insurance companies' assets are generally of a long term nature.

b) Design

The research design for the quantitative research is both descriptive and quasi-experimental and considers the potential causal relationship between stock market developmental indicators and time, prior and after the implementation of the 30% domestic retention requirement in 2009.

A quasi-experimental design is an empirical study used to estimate the impact of an intervention on a dependant variable. A quasi experiment design is chosen over traditional experimental design as randomization or identification of a control group is impractical for the purposes of this study. Grim Shaw et al (2003) highlighted that a type of quasi-experimental design called interrupted time series studies can provide a robust method of measuring the effect of an intervention such as a change in policy when randomization and control groups are impractical.

The type of quasi-experimental design used for the study is an interrupted time series design. Interrupted time series studies use data collected at regular equally spaced intervals of time before and after an intervention to measure the effect of an intervention. The interrupted time series design is used to assess movements of variables under consideration over time both before and after the implementation of the intervention (30% domestic investment requirement) in order to assess whether there is an obvious change. This approach has been used to estimate the effect of a variety of policy issues in various fields such as financial economics, Ho and Wan (2002).

3.5 Instrumentation

3.5.1 Sources of Data

a) Financial Services Regulatory Authority (FSRA)

Data on investment patterns of insurers and retirement funds with regard to the 30% domestic investment requirement was sourced from the RIRF and FSRA Annual Reports. Quarterly Data on stock exchange development indicators such as market capitalisation and value traded was sourced from the Capital Markets Division under FSRA. The data obtained from the FSRA is considered credible as the FSRA are the Regulators of the non-banking financial sector in Swaziland and they are bound by prudential governance requirements to maintain and collect accurate data for the industry.

b) The Swaziland Stock Exchange (SSX)

Data on the past performance and development challenges of the SSX is sourced from the SSX Annual Development Reports. Additional data is sourced from questionnaires administered to SSX personnel by the researcher.

The SSX is currently under the FSRA which is the regulator of non-bank financial institutions and data from the FSRA is deemed credible as they are bound by prudential governance requirements which include accurate reporting of the SSX performance and development indicators. The personnel of the SSX are deemed to have in depth knowledge of domestic capital markets.

c) Stock Brokers in Swaziland

Qualitative data on the impediments to the development of the SSX and comments on the perceived effect, if any, of the 30% domestic retention requirement is sourced from questionnaires administered to stock brokers.

Brokers are mostly the vehicles for trading on the secondary markets and the development of the SSX would be to their benefit. Brokers are expected to have an advanced understanding on the current position of the SSX. There are currently two stock brokers who are licensed to operate on the SSX³³. One broker completed the questionnaire for the purpose of this study.

³³African Alliance Swaziland Securities Ltd, Swaziland Stockbrokers Ltd.

d) The Central Bank of Swaziland

The data on the domestic economic indicators, namely GDP and inflation rates are obtained from the Central Bank of Swaziland, which produces annual data on the performance of the Swaziland economy.

3.5.2 Dependant Variables

The dependant variables consist of stock market development proxies. Stock market development covers a variety of issues, such as the market's ability to mobilise saving and investment risk. It is not possible to capture all the functions of the stock market in a single measurement. Literature highlights the size of the stock market, as well as the liquidity, as important components in its ability to stimulate economic growth. Therefore, for the purposes of this study, three stock market development indicators are used. Below are is a list of the three proxies for stock market development which are used as dependant variables for the purposes of this study.

a) Market capitalization to GDP ratio: This variable measures the size of the stock market relative to the economy (market capitalisation divided by GDP). This variable provides a measure of the amount of finance the market is capable of providing.

b) Value of stock traded to GDP ratio: This variable is a measure of stock market liquidity and its measures the value traded, relative to the size of the economy (GDP).

c) Value of stock traded to market capitalisation (turnover ratio): This variable measures the value traded relative to the size of the market. This ratio is equal to the total value traded divided by market capitalisation.

3.5.3 Independent variables

The independent variable in the segmented regression analysis is *time*. The segmented regression model fits a least of squares regression line for each segment of the independent variable, time, and therefore assumes a linear relationship between time and the outcome of each segment. The independent time variable will be broken down into segments listed below:

Time (X_1): This will be numbers starting from 1 onwards for each of the observations and reflects the number of quarters from the start of the series.

Intervention (X_2): This will consist of dummy variables. The number 0 is assigned to quarterly observation before the intervention took place and the number 1 is assigned to quarterly observations after the intervention.

Time after intervention (X_3): This will be numbers starting from 1 onwards, from the time of intervention for each quarterly observation. The numbers from 1 onwards reflect the number of quarters from the time of the intervention until the end of the series.

3.5.4 Estimation of Quarterly GDP

Two of the dependant variables are defined as a percentage of GDP figures however in Swaziland GDP figures are only available on an annual basis. For the purposes of this study the researcher decided not to use extrapolation methods to get quarterly GDP figures as the real GDP figures ranged from approximately SZL12000 million to SZL 13000 million in the period under review. Based on the relatively constant real GDP over the years under review we assume that dividing the market capitalization and turnover value by real GDP will be similar to dividing by a constant. Thus, for the purposes of this study we assume that GDP is a constant and will not affect the trend of market capitalization and turnover value.

3.5.5 Data Limitations

The Central Bank of Swaziland currently only publishes annual GDP figures and the research required quarterly real GDP figures.

Swaziland currently has a population of only two stock brokers and only one of the brokers agreed to complete the questionnaire. The small population and sample population decreases the significance of the primary qualitative data obtained from the questionnaire.

3.6 Data Analysis

3.6.1 Descriptive Research Design

Descriptive research is used to assess trends in variables under investigation. The type of descriptive study used is a longitudinal study. For the descriptive research, a continuous panel whereby repeated measurement of the same variables was used. The descriptive research includes an analysis of the casual relationship of variables visually represented on graphs.

3.6.2 Segmented linear regression

A segmented regression analysis is used to analyse the results of this study. Segmented regression analysis is a statistical method for estimating intervention effects in interrupted time series design. The segmented regression analysis was deemed more appropriate for this study as it is simpler compared to the alternative ARIMA model which requires a long time series with at least 100 points and it is also less flexible and not fit for the purposes of evaluation of the effect of policies Legarde (2012).

The statistical software used to run the model is STATA. The following segmented regression equation fits a least of squares regression line to each segment of the independent variable, time:

$$Y_t = \beta_0 + \beta_1 * \text{time} + \beta_2 * \text{intervention} + \beta_3 * \text{time after intervention} + e_t$$

Where:

Time is a continuous variable indicating time in months at time t from the start of the observation period. Time is therefore the number of quarters from the start of the series.

Intervention is an indicator of the time, t , when the 30% domestic retention requirement is implemented. Intervention is a dummy variable taking the values 0 in the pre- intervention segment and 1 in the post-intervention segment.

Time after intervention is a continuous variable counting the number of quarters after the intervention at time, t . Time after intervention is 0 in the pre-intervention segment and counts the quarters in the post-intervention segmented at time t .

OLS estimators' interpretations:

β_0 estimates the baseline level of the outcome, t , at time zero

β_1 estimates the change in Y that occurs with each quarter before the intervention (baseline trend)

β_2 estimates the level of change in Y during the quarter of the intervention

β_3 estimates the level of change in Y after the intervention

A 95% confidence interval is used, which gives an interval where we are 95% confident β will lie. If the p-value is less than 5% (0.05) then we conclude that B is not equal to zero and there is strong evidence that the independent variable has significant power in explaining the dependant variable. The p-value and the OLS parameter estimates are used to assess

whether the independent variable is significant in explaining the dependant variable and to what extent. The results consist of three regression output tables for each of the dependant variables, namely: market capitalisation as a percentage of GDP, value traded as a percentage of GDP and turnover ratios.

3.6.3 Threats to Internal Validity

Time series data sometimes exhibit seasonal fluctuations (secular trends). In time series segmented regression analysis, error terms of consecutive observations can be often correlated.

Quasi-experimental estimates of impact can be subject to contamination by confounding variable. The lack of randomization in quasi-experimental design method makes it more difficult to rule out confounding variables. To account for possible biases the following issues are taken into account in the study:

Other legislative changes that may have had an effect on the dependant variables in the period under review are considered. Based on an analysis of the recent legislation in Chapter 2 of this research paper the researcher assumes that none of the legislative changes that were effected in the period under consideration could have had a significant effect on the dependant variables besides the 30% local investment requirement stipulated in both the Insurance Act and the Retirement Funds Act of 2005.

The Securities Act of 2010 and the FSRA Act of 2010 are expected to have a positive effect on investor confidence in capital markets in Swaziland and by extension the SSX. However, the legislative body responsible for the enforcement of these Acts was established in 2012 and the effects of these policies on investor confidence are expected to have a lag effect. Thus, the study reasonably assumes that these Acts had no significant impact on the development of the SSX between 2006 and 2012.

GDP per capita was included as an additional variable that could affect Y_t in the specification on page 46. The addition of GDP per capita as an independent variable did not improve the model and it was subsequently not included in the model. The regression results are reported in appendix 2 of the research paper.

The number of firms listed on the SSX will not be kept constant for the period under consideration. However, all new listing and exits of companies on the SSX will be taken into consideration in the analysis of the data.

3.6.4 Threats to External Validity

The use of quasi-experimental designs minimizes threats to external validity as they do not have the same problems of artificiality as compared to randomised experiments.

Ethical Issues

The researcher communicated to the research participants that the research that is being undertaken is solely for academic purposes and the results will not be published or reproduced for any other purpose other than academia. Data obtained from the SSX and the stock brokers through questionnaires will be treated with confidentiality, including employee privacy.

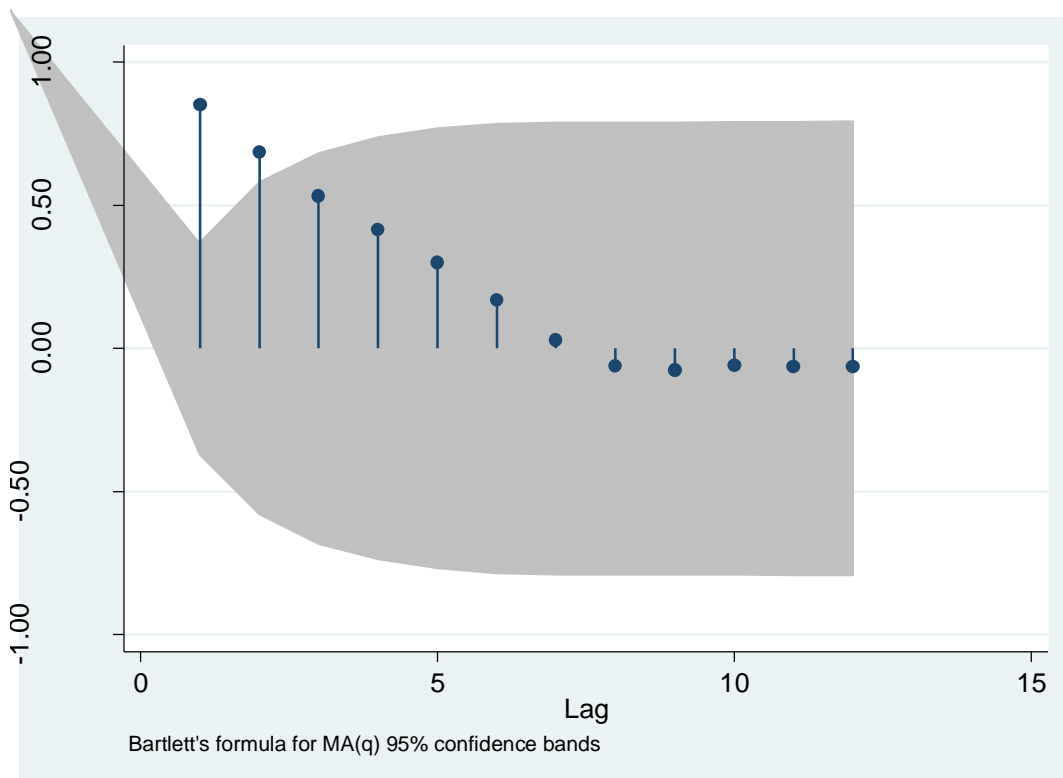
4 CHAPTER 4: RESEARCH RESULTS AND ANALYSIS

4.1 Introduction

This chapter presents the results, analysis and interpretation of the findings of the research. This involves an analysis of the descriptive results, the regression output results and the responses from administered questionnaires. The analysis relates the findings to the literature sources highlighted in chapter two of this report. The descriptive and quantitative analysis is presented first and the focus is on whether a causal relationship exists between the implementation of the legislative 30% domestic retention requirement stipulated in both the Retirement Funds Act and the Insurance Act of 2005 and the development of the SSX. The qualitative analysis is presented towards the end of this chapter and focuses on the main impediments to the development of the SSX.

4.2 Test for Autocorrelation and Partial Correlation

Autocorrelation represents the correlation between a variable and its previous values. It is tested, for all variables, using the autocorrelation function (ACF) and partial correlation function (PACF) command in STATA that produces a correlogram (a graph of autocorrelations) with point wise confidence intervals that is based on Bartlett's formula for MA(q) processes.



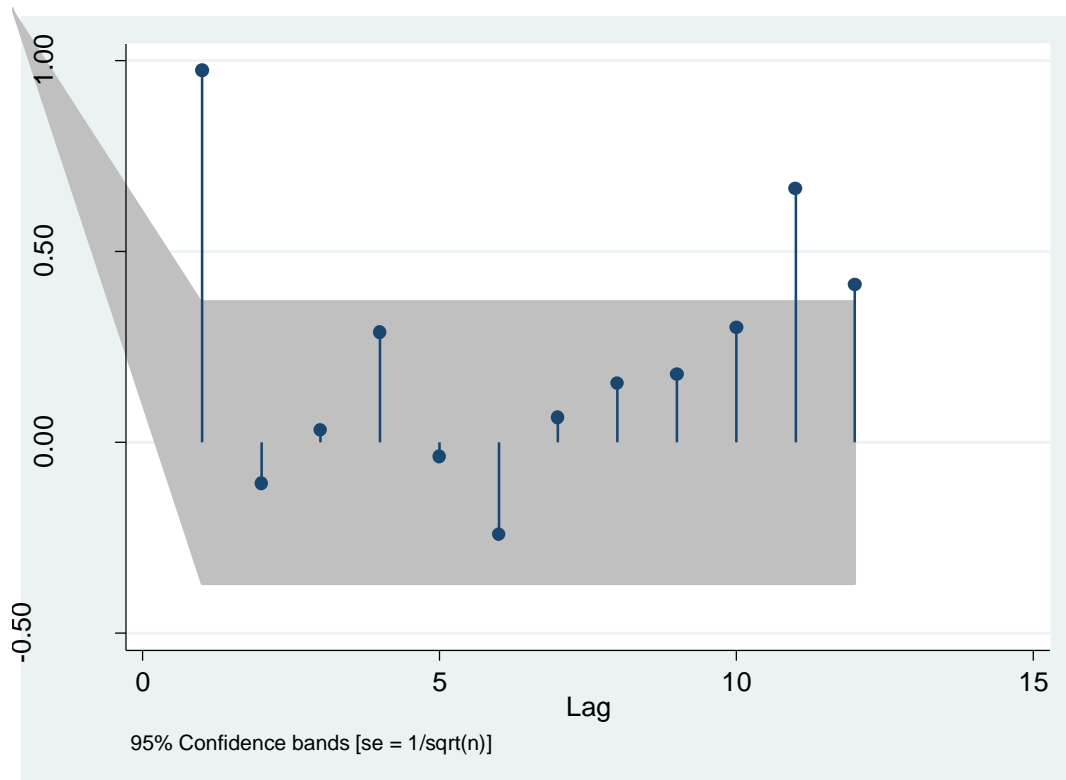
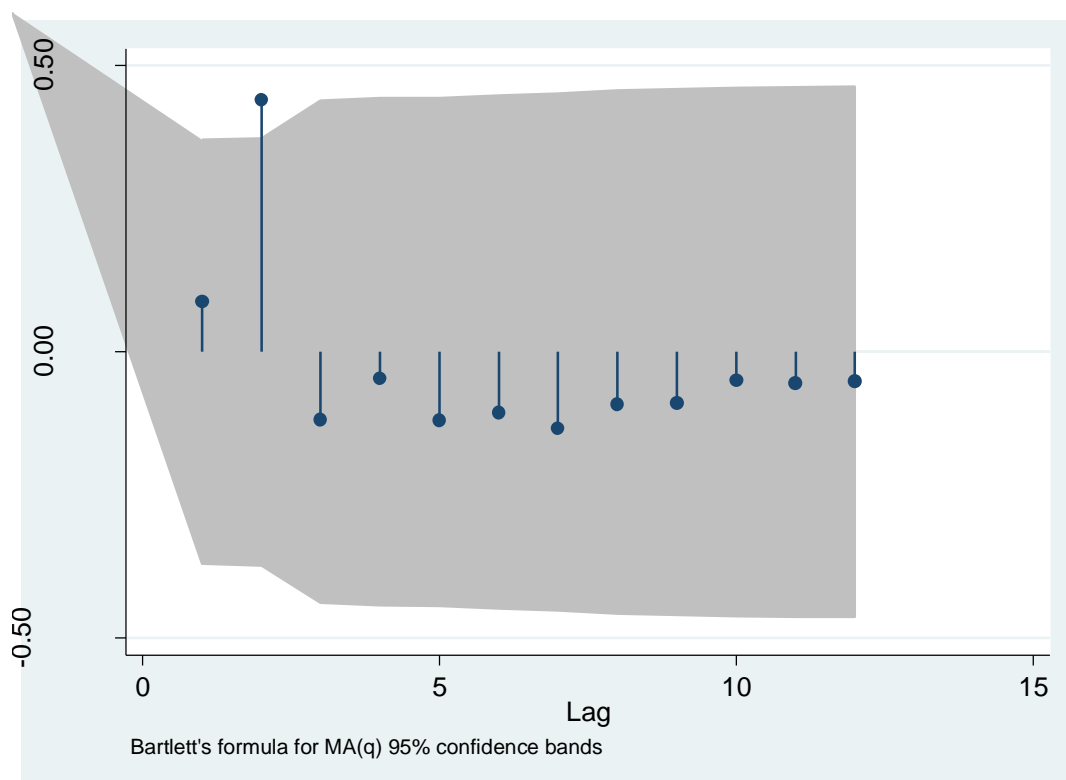


Figure 3: ACF and PACF (Respectively) Correlograms for Market Capitalization



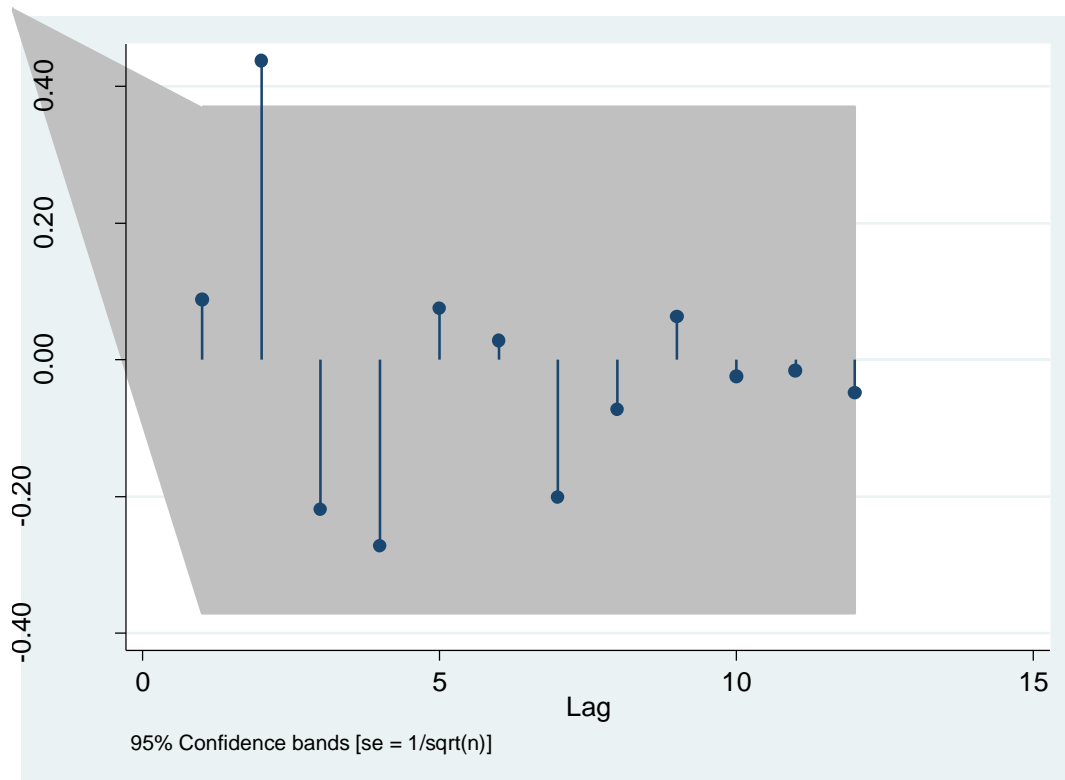
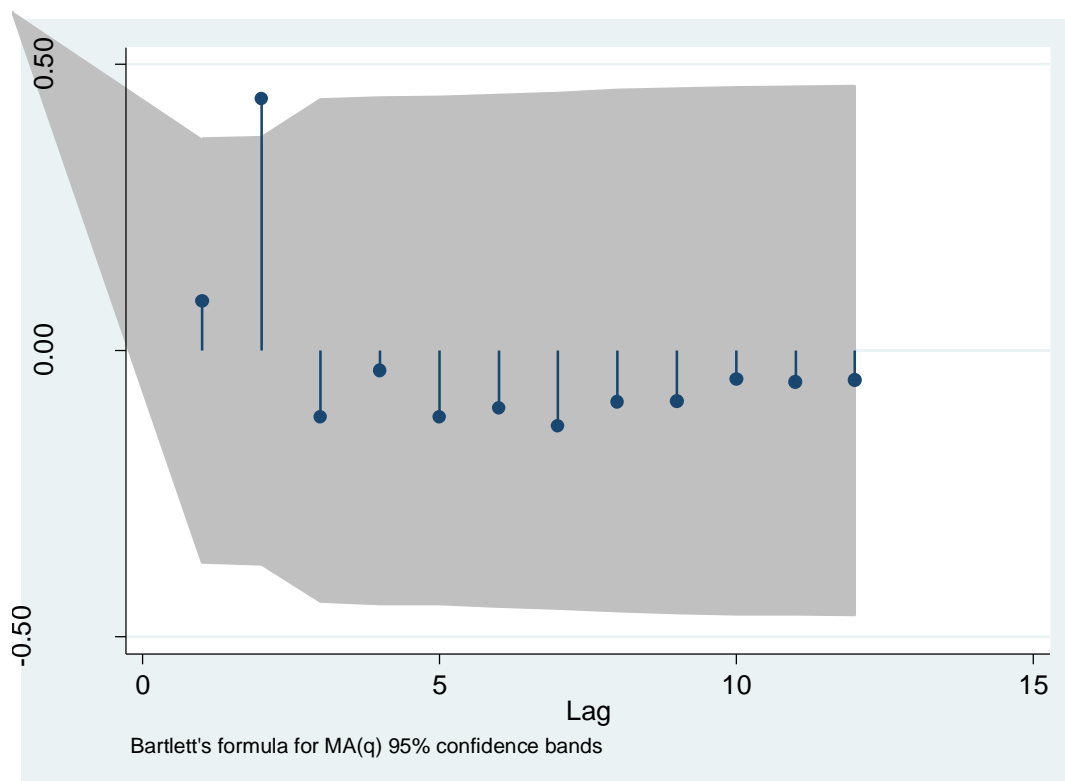


Figure 4: ACF and PACF (Respectively) Correlograms for Turnover Value



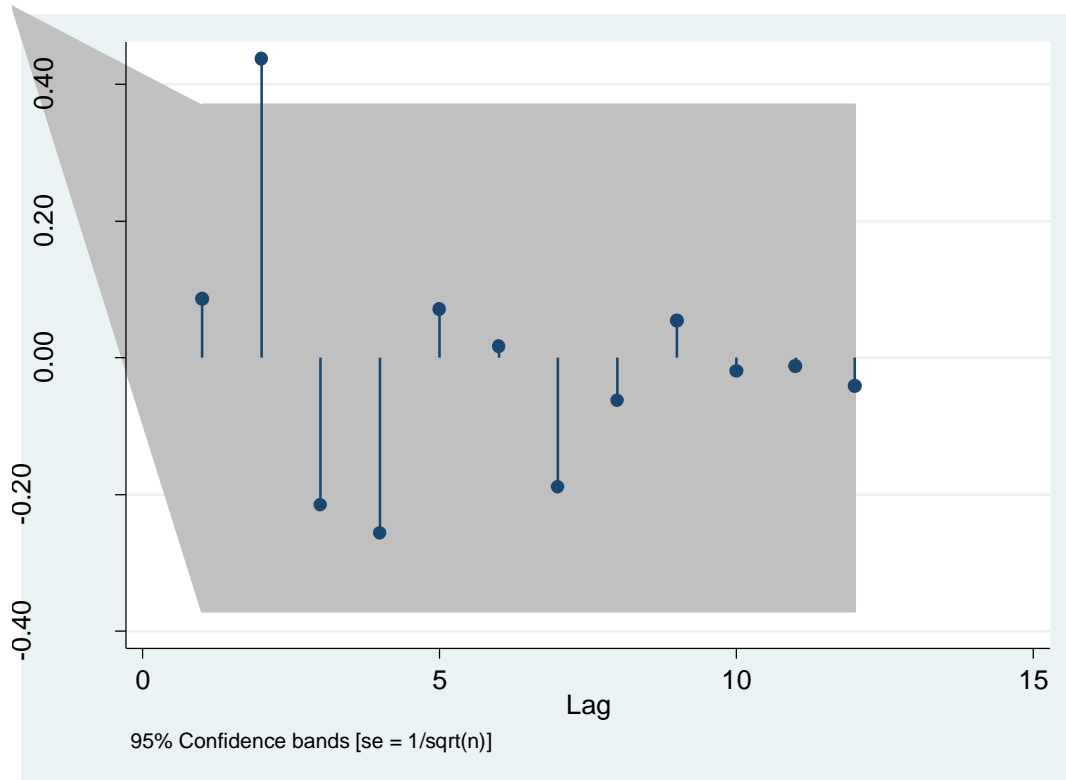


Figure 5: ACF and PACF (Respectively) Correlograms for Turnover Value/Market Capitalization Ratio

4.2.1 Analysis of ACF and PACF Correlograms

ACF depicts persistence of autocorrelation in the market capitalization series in (figure 3) which is pronounced in the first 2 quarters. The series has long memory, but there are no shocks in the 7 quarters. The PACF plot has a significant spike only at lag 1, meaning that all the higher-order autocorrelations are effectively explained by the lag-1 autocorrelation.

Turnover value and the Turnover value/market capitalization ratio depict (figure 4 and 5) similar autocorrelations and partial autocorrelation patterns. There is a significant spike in only the second lag. The PACF plot only has a significant spike at lag 2 which means all the higher-order autocorrelations correlations are explained by lag-2 autocorrelation.

4.3 Descriptive Statistics

4.3.1 Evolution of Market Capitalization 2006-2012

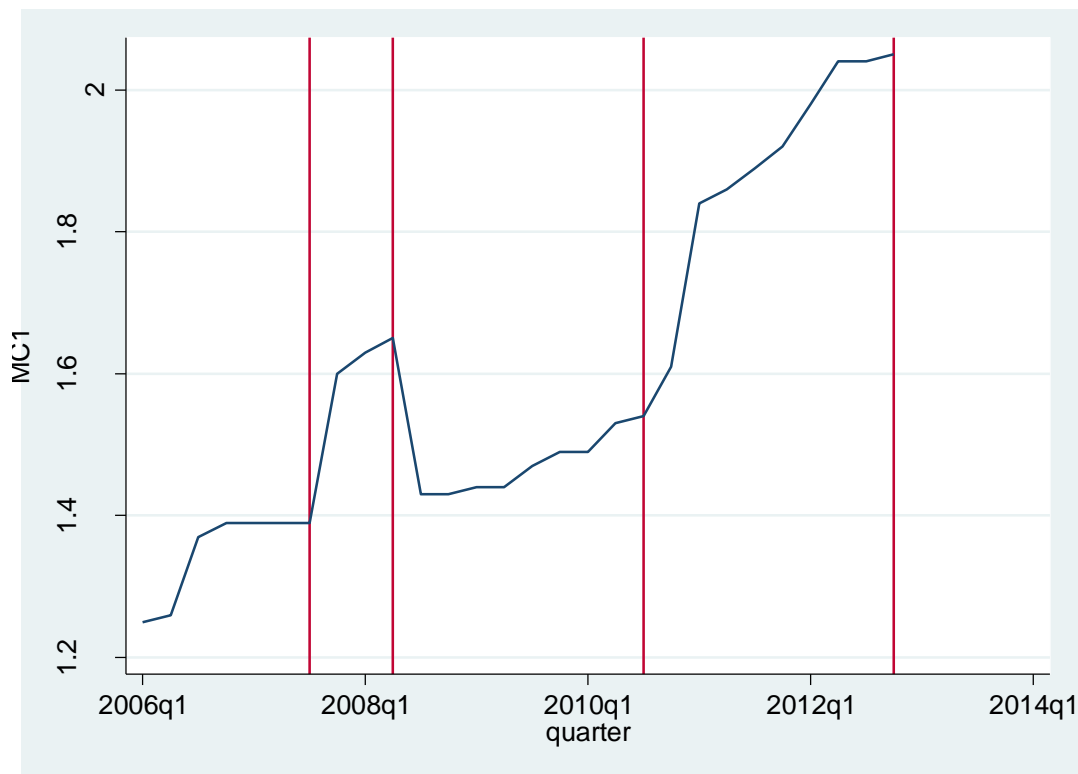


Figure 6: Market Capitalization Trend 2006-2012

Figure 6 depicts that there was a change in the trend (upward trend) of market capitalization in the third and fourth quarters of 2007. The SSX Development report for 2007 attributes the change in trend in market capitalization to the surge of share prices in a number of listed companies especially in the last quarter of 2007.

There was also a change in trend in the second quarter of 2008 (downward trend). The SSX Developmental Report for 2008 attributes this trend to a delisting of one of the companies listed on the SSX (Newera Partners). The delisting of the Newera Partners in 2008 dampened the surge in share prices of listed companies in 2007.

The final change in trend of market capitalization was towards the end of 2010 (Upward trend). The SSX Developmental Report for 2010 indicates that market capitalization surged due to a new listing on the SSX. Market capitalization depicts an overall upward trend between 2006 and 2012.

4.3.2 Evolution of Turnover Value 2006-2012

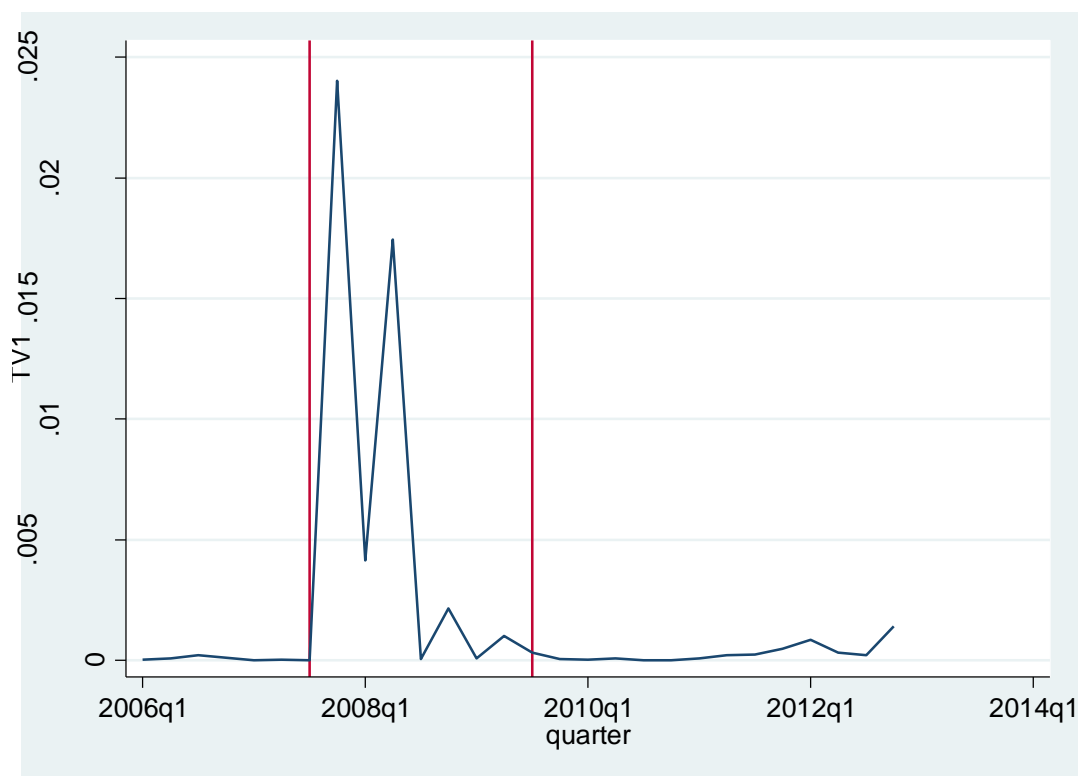


Figure 7: Turnover Value Trend 2006-2012

Figure 7 depicts that the overall trend in turnover value is relatively constant. Spikes are evident in the third quarter of 2007 and the third quarter of 2009. The SSX Development Report for the year 2007 reveals that the increase in the value traded in this period was due to the off-loading of one of the listed company's (Newera) 10.84% shareholding in another listed company (SEL).

There was no particular explanation in the SSX Developmental Reports for the spike towards the end of 2008. However, it is clear that it was a once off event.

4.3.3 Evolution of Turnover Ratio 2006-2012

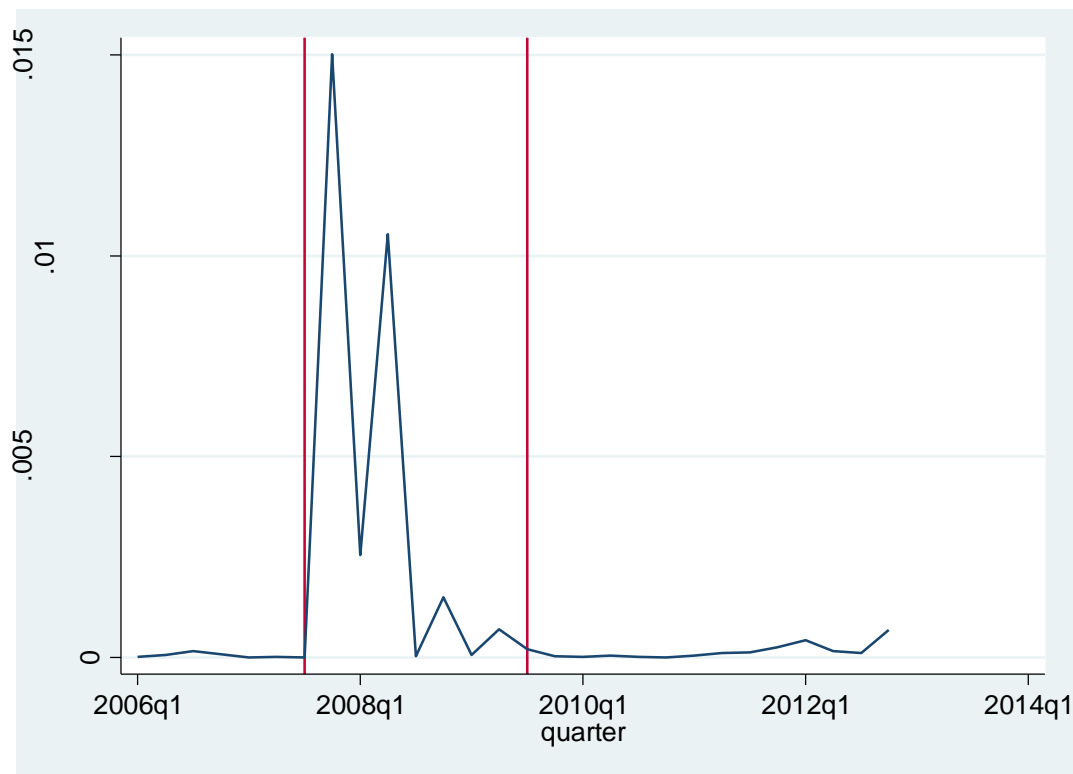


Figure 8: Turnover Value/Market Capitalization Ratio Trend 2006-2012

Figure 8 depicts that the trend of the turnover ratio is similar to the trend of turnover values. The overall trend in turnover ratio is also relatively constant. Spikes are evident in the third quarter of 2007 and the third quarter of 2009. The SSX Development Report for the year 2007 indicates that the increase in the value traded in this period was due to the off-loading of one of the listed company's (Newera) 10.84% shareholding in another listed company (SEL). There was no particular explanation in the SSX developmental reports for the spike towards the end of 2008. However, it is clear that it was a once off event.

4.4 Modelling Intervention

This section aims to answer the following research question where Q_x refers to research question x and H_0 and H_1 refers to the null and the alternative hypothesis respectively:

Q_1 : Has the 30% domestic investment requirement had an impact on the development of the SSX, specifically the public equity market?

Below is a statement of the null and alternative hypothesis:

H_0 : The 30% domestic retention requirement has no impact on the development of the SSX.

H_1 : The 30% domestic retention requirement has an impact on the development of the SSX.

4.4.1 Turnover Value/Market Capitalization Ratio Model

Table 6: Segmented Regression Results for Turnover Value/Market Capitalization Ratio

Covariate	Coefficient	Standard error	T-value	p-value
time	0.00012	0.00020	0.60	0.555
intervention	-0.00301	0.00260	-1.16	0.259
time after	-0.00008	0.00032	-0.26	0.795
intercept	0.00109	0.00185	0.59	0.561

P-value is greater than 0.05 for all the regression estimators which means that the time period before, during and after the intervention have no significant power in explaining the trend of the turnover value/market capitalization ratio. There is strong evidence that the intervention had no significant effect on the trend of the turnover/ market capitalization ratio.

Table 7: Segmented Regression for Turnover Value/Market Capitalization (adjusted for Correlation Using Prais-Winsten AR (1) Regression)

Covariate	Coefficient	Standard error	T-value	p-value
time	0.000123	0.0001993	0.62	0.543
intervention	-0.0030511	0.0025636	-1.19	0.246
time after	-0.0000844	0.000317	-0.27	0.792
intercept	0.001087	0.0018107	0.554	0.554

P-value is greater than 0.05 for all the regression estimators which means that the time period before, during and after the intervention have no significant power in explaining the trend of the turnover value/market capitalization ratio. There is strong evidence that the intervention had no significant effect on the trend of the turnover/ market capitalization ratio.

4.4.2 Segmented Market Capitalization Model

Table 8: Segmented Regression Results for Market Capitalization

Covariate	Coefficient	Standard error	T-value	p-value
time	0.0143214	0.0050752	2.82	0.009
intervention	-0.1348141	0.0651115	-2.07	0.049
time after	0.0413929	0.0080861	5.12	0.0001
intercept	1.320762	0.0461447	28.62	0.0001

P-value is less than 0.05 for all the regression estimators which means that the time period before, during and after the intervention have significant power in explaining the trend in market capitalization. The results are interpreted below:

- The intervention had a significant effect on the level of market capitalization as the p-value is less than 0.05.
- Market capitalization increased by SZL 14 321 400 in the pre-intervention period.
- Market capitalization decreased by SZL 13 481 410 during the intervention.
- Market capitalization increased by SZL 41 392 900 after the intervention.
- The coefficients reflect that there was a significant change in trend as a result of the intervention.

Table 9: Segmented Regression Results for Market Capitalization (adjusted for correlation using Prais-Winsten AR(1) Regression)

Covariate	Coefficient	Standard error	T-value	p-value
time	0.0140115	0.0077182	1.82	0.0082
intervention	-0.0660179	0.0760863	-0.87	0.394
time after	0.0351045	0.0134966	2.60	0.016
intercept	1.308058	0.0747509	17.50	0.000

P-value is less than 0.05 for the time after the intervention which means that the time period after the intervention has significant power in explaining the trend in market capitalization. P-value is greater than 0.05 for the time before and during the intervention which means that the time period before and during the intervention have no significant power in explaining the trend of market capitalization.

The results are interpreted below:

- The time after the intervention had a significant effect on the level of market capitalization as the p-value is less than 0.05..
- Market capitalization increased by SZL 35 104 500 after the intervention.
- The coefficient for time after the intervention reflects that there was a significant change in trend after the intervention.

4.4.3 Segmented Turnover Value Model

Table 10: Segmented Regression Results for Turnover Value

Covariate	Coefficient	Standard error	T-value	p-value
time	0.0001941	0.0003298	0.59	0.562
intervention	-0.0048933	0.0042311	-1.16	0.259
time after	-0.0001187	0.0005255	-0.23	0.823
intercept	0.001762	0.0029986	0.59	0.562

P-value is greater than 0.05 for all the regression estimators which means that the time period before, during and after the intervention have no significant power in explaining the trend in turnover value. There is strong evidence that the intervention had had no significant effect on the trend of the turnover value.

Table 11: Segmented Regression Results for Turnover Value (adjusted for correlation using Prais-Winsten AR(1) Regression)

Covariate	Coefficient	Standard error	T-value	p-value
time	0.0001955	0.0003246	0.60	0.553
intervention	-0.0049366	0.0041725	-1.18	0.248
time after	-0.0001177	0.0005164	-0.23	0.822
intercept	0.001759	0.0029492	0.60	0.556

P-value is greater than 0.05 for all the regression estimators which means that the time period before, during and after the intervention have no significant power in explaining the trend in turnover value. There is strong evidence that the intervention had had no significant effect on the trend of the turnover value.

4.5 Discussion of Findings

The results suggest that a casual positive relationship exists between the time after the implementation of the legislative 30% domestic investment requirement and market capitalization. Figure 6, depicts an overall upward trend in market capitalization after the implementation of the 30% domestic investment requirement in 2009 which supports the findings of the segmented regression results for market capitalization. There was presence of autocorrelation in the series for market capitalization, however after adjusting for correlation with the Prais-Winsten method, the results indicated that only the time after the intervention has significant power in explaining the trend in market capitalization which suggests that the impact of the intervention is lagged.

The results suggest that a casual relationship does not exist between the implementation of the legislative 30% domestic investment requirement and both turnover value and turnover ratio. Figure 7 and 8 depict an overall constant trend before and after the implementation of the 30% domestic investment requirement in 2009. The results suggest that the intervention did not have an impact on stock market liquidity.

Thus, the following research question is addressed by the three models for each stock market development indicator:

Q₁: Has the 30% domestic investment requirement stipulated in both the Retirement Funds Act and the Insurance Act of 2005 had an impact on the development of the SSX, specifically the public equity market?

Hypothesis:

H₀: The 30% domestic retention requirement has no impact on the development of the SSX.

H₁: The 30% domestic retention requirement has an impact on the development of the SSX.

The outcome of the research is as follows:

1. In the case of Market capitalization as a stock market development indicator we reject the null hypothesis at a 5% level of significance.
2. In the case of both turnover value and turnover ratio we do not reject the null hypothesis at a 5% level of significance

4.6 Impediments to the Development of the Stock Exchange

This section aims to answer the research question on the current impediments that exist towards the development of the SSX. It will involve an analysis of SSX yearly reports and results of the questionnaires administered to personnel of the stock exchange and stock brokers on challenges faced by the SSX. The impediments to the development of the stock exchange are discussed below:

4.6.1 Poor Liquidity

The main impediment to stock market development highlighted by both the SSX and the brokers is poor liquidity. Since the inception of the SSX the turnover ratio has mostly not exceeded one percent. The lack of liquidity has been attributed to the small capital base of listed companies, the small size of the SSX and the low free float (small number of public stock available). The SSX established an alternate board which was intended to attract small to medium enterprises. However, so far the alternative board has been dormant. Hearn and Piesse (2010) highlighted that bank credit is more accessible to small and medium enterprises at a significantly lower cost than a stock market listing.

The questionnaires revealed that most shares bought by retirement funds are held for the long term and are hardly traded on the secondary market unless the retirement fund is liquidated. Retirement funds have an incentive not to sell the domestic equities in their portfolios as it helps them comply with the 30% domestic investment requirement. Thus in a country with shallow capital markets such as Swaziland, regulated institutional investors have an incentive to hold on to their domestic capital market instruments. This tendency by institutional investors has a negative effect on the secondary market activity of the SSX. Thus the investment behaviour of most institutional investors is buying-and-holding.

4.6.2 Free Float

Free float is the proportion of securities held by the public to the total number of listed firm's securities and the agreed minimum for SADC exchanges set by the COSSE is 20%. However, calculations made by the Capital Markets Division under FSRA indicate that only approximately 8% of securities of the companies that were already listed at the time this minimum was set, are available to the public. This contributes to low liquidity in the domestic stock market.

4.6.3 Lack of New Listings

There have been minimal developments in the number of newly listed firms since 2005. The almost non-existent new listings (IPO) add to the reasons why there is minimal trading activity. Further, most companies in need of financing are small to medium enterprises, however due to their relatively unknown status, they do not make appealing candidates for initial public offerings.

4.6.4 Legislative Framework

The lack of legislation was one of the main impediments to the development of the stock exchange before the implementation of the Securities Act of 2010 and the Financial Services Regulatory Authority Act of 2010. The Financial Services Regulatory Authority (FSRA) which is responsible for the regulation of capital markets started operating in 2012.

The absence of legislation prior to these Acts impacted negatively on attempts by the SSX to deepen the market and on investor confidence. Both the Securities Act and the Financial Services Regulatory Act of 2010 are expected to improve investor confidence. However, this is expected to have a lag effect as investors will probably require time to assess the effectiveness of the regulator in diligently enforcing the legislation.

4.6.5 Trading Infrastructure

The trading on the exchange is carried out using the call over system. Trading is manually conducted which has a major limitation on efficiency and settlement procedures. The lack of efficient trading infrastructure also makes it difficult for the SSX to link up with other exchanges, which operate on an electronic platform.

4.6.6 Central Depository System

The SSX currently does not have a central securities depository system, therefore owners of securities still have to keep share certificates as proof of ownership. This has resulted in the process of dual listing being impossible since the demutualization of the JSE Securities Exchange.

4.6.7 Lack of Education and Behavioural Patterns of Investors

Most Swazi investors are not educated on how a stock exchange works and they do not appreciate the value of buying and selling rather than holding. This is also linked to the historical investment vehicles used by Swazi investors who prefer to invest in assets that have intrinsic value such as cattle.

5 CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This chapter focuses on the conclusions and recommendations (policy guide) that are drawn from the findings.

The empirical results of the study exhibit evidence to the effect that the Legislative 30% domestic investment requirement has a positive impact on market capitalization (size). The empirical results also exhibit evidence to the effect that the Legislative 30% domestic investment requirement has no impact on the liquidity of the SSX, which was measured in terms of turnover ratio and turnover value. Thus, the research found that the 30% domestic investment requirement has a positive impact the development of the SSX in terms of growth in market capitalization (size) only, not liquidity.

Policy makers would benefit from future studies on the impact of the legislative 30% domestic investment requirement which will utilize more observations. More observations would be beneficial in studying the lag effects of the intervention. Studies on the potential opportunity cost in terms of risk and return of such domestic retention legislation would also be beneficial to policy makers.

5.2 Policy Recommendations

The following recommendations (policy guides) and potential strategic actions spring from the discussion of the above impediments:

Promote privatisation of state owned enterprises – The Local Government could consider using the SSX to facilitate the privatisation process. This would likely have a positive impact on the liquidity of the SSX.

Increase free float – The liquidity of domestic stock markets could be improved if the minimum free float of 20% which was approved by the Committee of SADC Stock exchanges is actively enforced by the Regulator of capital markets (FSRA). It is recommended that the SSX actively engage companies whose stock is in demand to consider availing more shares to the public to improve stock market liquidity.

Provide more tax incentives for listed companies – To encourage more companies to list on the SSX, policy makers could consider the use of tax incentive that promote participation

in the domestic stock market. An example of such a tax incentive would be a reduction in corporate tax for companies listed on the SSX. This option however should be considered with caution as it also results in a reduction in tax revenue for the government. It is recommended this incentive be provided for companies below a certain level of profitability such as small and medium companies.

Strengthen education on the Stock Exchange – The stock exchange currently has an education campaign which encompasses schools investment challenges, career fairs presentations and print and social media. The SSX could strengthen the campaigns by increasing the frequency of publications and provide attractive incentives for participation in investment challenges.

Establish a centralised settlement system – The establishment of a centralized system for clearing and settlement is likely to have positive effects on the efficiency of the stock exchange. However, the liquidity of the stock exchange should be taken into consideration to determine the net effect of acquiring a centralised system at the current development level of the SSX, especially in terms of costs.

Encourage venture capitalist – Venture capitalist could provide funding and specialised skills and guidance to start ups in order to enable them to grow profitably. Once the companies have reached maturity, the venture capitalist could use the SSX as a channel for their exit.

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7 APPENDIX 1 - Questionnaire to Key Industry Players

Consent to Participate in Research

You are invited to participate in a research conducted by Thokozile Buluma. This research forms part of my studies towards attainment of Master's Degree in Management Finance and Investments at Wits Business School.

All participants are required to read the following abstract before they decide to participate in the research. This exercise is a voluntary.

Purpose of the Research

The purpose of this study is to identify the impact of legislative changes, particularly the 30% legislative local investment requirement stipulated in the Retirement Funds Act of 2005 and the Insurance Act of 2005, on the Swaziland Stock Exchange (SSX), particularly the public equity market, and determine impediments to the development of the SSX.

Confidentiality

The research is being undertaken for academic purposes and result of the research will not be published, sold or reproduced for any other purpose than for academia. Any comments made by participants will be treated with privacy and confidentially.

Procedures

Participants in this research are required to complete a questionnaire. Depending on the availability of the participant the questionnaire can either be emailed by the researcher and/or the questionnaire can be administered by the researcher. The estimated time required to complete the questionnaire is approximately 30 minutes. Participants are free to refuse to answer any questions or to withdraw from the process at any stage.

Potential Risks

Participants may be temporarily inconvenienced by the time it takes to complete the questionnaires (30 minutes).

Payment for Participation

Participants will not receive payment for your participation.

Identification of Researcher

If you have any questions or concerns about the research, please feel free to contact:

Thokozile Buluma, +268 602 5808, thokobuluma@yahoo.com

Rights of research subjects

You may withdraw your consent at any time and cease participating without any penalty.

You are not giving up any legal rights because of your participation in this research.

Signature of research participants

I understand the procedures described above and I agree to participate in this research. Please note that participants will not be required to sign this declaration as this may identify you, but your consent is evidenced by completion of the answer sheet.

Questionnaire A – to personnel of Stock broker

What are the challenges or impediments to the development of the SSX, if any?

In your professional opinion, has the 30% domestic investment requirement had an impact on the development of the SSX, particularly the public equity market?

Questionnaire B – to personnel of the SSX

What are the challenges or impediments to the development of the SSX, if any?

In your professional opinion, has the 30% domestic investment requirement had an impact on the development of the SSX, particularly the public equity market?

8 APPENDIX 2 - Segmented Regression Results for Market Capitalization (adjusted for correlation using Prais-Winsten AR (1) Regression)

Covariate	Coefficient	Standard error	T-value	p-value
time	0.0219305	0.0401059	0.55	0.59
intervention	-0.0692655	0.079698	-0.87	0.394
time after	-0.031704	0.0216899	1.46	0.157
GDP per capita	-0.1156625	0.5745522	-0.20	0.842
intercept	0.00109	0.878144	1.69	0.105